STRAITS SETTLEMENTS

Annual Report of the Medical Department for the year 1935

BY

R. D. FITZGERALD, (M.C.), M.D.,
Director of Medical Services, S.S.

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STRAITS SETTLEMENTS

ANNUAL REPORT OF THE MEDICAL DEPARTMENT FOR THE YEAR 1935

INTRODUCTION

The health of the people of the Straits Settlements showed a slight improvement in 1935, compared with the previous year, in spite of the fact that there was a considerable increase in malaria in all parts of the Colony, and particularly in Singapore. Cases of malaria treated in hospitals numbered 13,432 compared with 5,965 in 1934, and deaths registered as due to malaria increased from 814 to 1,698. The combined figure for deaths registered as "Malaria" and as "Fever Unspecified" was, however, only 168 more than that for the previous year. In spite of this the total crude death rate for the Colony was lower than in 1934, being 25.11 per mille compared with 26.54 per mille in the previous year. The birth rate was 41.76 per mille, the highest yet recorded in the Straits Settlements, and the infant mortality rate reached a new low record of 165.28 per mille.

The vital statistics for this year are not strictly comparable with those for former years, because of a change in the age and racial distribution of the population at risk. There was an increase of nearly 65,000 on the balance of immigrants over emigrants, an increase of about 15,000 on the balance of births over deaths, and a loss of population of about 20,000 caused by the recession of the Dindings territory to the State of Perak. The net result is an increase of population amounting to 59,915, but the total deaths numbered actually one less than in the previous year. This is evidence that there has been no general deterioration in public health, and that the rise in malaria has been kept under control and has never approached the condition of being an epidemic.

An outbreak of smallpox in Singapore in the middle of the year was a disturbing departure from the usual freedom from serious infectious disease that the Colony enjoys. There were 65 cases with 21 deaths, and cases occurred from April until the end of August.

There have been no important new developments in the medical and health department. The work of previous years has been well maintained and there has been a gradual advance and consolidation in all public health activities. It is important to reiterate that the increase in malaria need cause no serious alarm. There are indications that the year 1935 may mark the crest of a malarial wave, and that a period of recession may be expected to follow; but there must be no reduction of effort in anti-malarial works if advantage is to be taken of this recession and safety ensured.

NEW BUILDINGS

General Hospital, Penang.—The new general hospital at Penang was completed by the addition of a third new block containing administrative offices, dental clinic, ear, nose and throat department, ophthalmic department, radiological department, operating theatres, out-patients department and also wards for first class patients. This building was occupied in April, 1935.

LEGISLATION

ORDINANCES PASSED DURING THE YEAR 1935

THE HOSPITALS BOARD (AMENDMENT) ORDINANCE

This Ordinance was passed to overcome the difficulty which had been experienced by the Hospitals Board in suits for the recovery of hospital charges.

MEDICAL REGISTRATION (AMENDMENT) ORDINANCE

This Ordinance provides for the free registration of medical officers of the Navy, Army and Air Force. It is desirable that qualified medical officers of the Navy, Army and Air Force should be actually registered rather than that they should have the privilege of registration without being registered under the Ordinance.

DELETERIOUS DRUGS (AMENDMENT) ORDINANCE

The object of this Ordinance is to amend the Deleterious Drugs Ordinance, 1927, so as to give effect to the provisions of the International Opium Convention signed at Geneva on the 13th day of July, 1931, and to make provision for the extension of the Ordinance to drugs capable of being converted into drugs of addiction.

MALACCA AGRICULTURAL MEDICAL ASSESSMENT (AMENDMENT) ORDINANCE

The Malacca Agricultural Medical Assessment Ordinance, 1930, enacted that sections 148, 149, 150 and 152 of Ordinance No. 197 (Labour) should not apply to Malacca. The Malacca Agricultural Medical Board never assumed the functions of a Rural Hospital Board, nor has the assessment under the Ordinance of 1930 ever been intended to pay for hospital services. The treatment of estate coolies in Government hospitals is not covered by the assessment and in actual practice the estates have always paid for such treatment. Estates in Malacca avail themselves of the permission to maintain joint hospitals in accordance with section 148(2) of Ordinance No. 197 (Labour) and they also comply with section 149(1) of the latter Ordinance. The latest Ordinance therefore, deletes these four sections of the Labour Ordinance above mentioned from the list of those which are not applicable to Malacca.

KING EDWARD VII COLLEGE OF MEDICINE, SINGAPORE

The outstanding event of the year was the institution of a course for the training of pharmacists. The first course commenced on the first of October, 1935, and was attended by 13 students. The course is divided into two stages namely: (*a*) pupil or apprentice stage during which the pupil is apprenticed to a pharmacist, hospital dispensary, or firm approved by the Pharmacy Board; (*b*) attendance at a course in pharmacy, botany, pharmacognosy, etc., at the King Edward VII College of Medicine for one academic year.

A convocation for the conferring of diplomas was held on the 29th March, 1935. His Excellency the Governor, Sir SHENTON THOMAS, K.C.M.G., O.B.E., presented the L.M.S. *(Honoris Causa)* to Mr. C. J. SMITH, C.B.E., F.R.C.S., Professor J. R. KAY-MOUAT, M.S., M.B., D.P.H., and Dr. F. R. SAYERS, M.D., D.P.H.

There was an entry of 26 medical and 15 dental students in June when the academic year commenced. There were 182 students, including 56 dental students and 13 pharmacy students, in December, 1935, as compared with 135 in December, 1934. During the year 1935, 130 candidates sat for the medical professional examinations of whom 73 were successful. Seventy-six candidates sat for the dental professional examinations of whom 31 passed.

In September, 1935, over 200 members of the British Medical Association visited Singapore on their return journey from the meeting of the British Medical Association held at Melbourne. Many of the visitors inspected the King Edward VII College of Medicine and the teaching units in the hospitals.

Further details of the work of the College of Medicine will be found in Section IX.

INTERNATIONAL MALARIA COURSE

The second International Course in Malariology in the Far East, organised by the League of Nations, was held in April, May and June, 1935.

The technical control of the course was entrusted to a committee consisting of:—

The Director of the Eastern Bureau, League of Nations.

The Chief of the Malaria Control Service, Netherlands Indies.

The Professor of Biology, King Edward VII College of Medicine, Singapore.

The Professor of Pathology and Acting Principal of the King Edward VII College of Medicine, Singapore.

The course was attended by 14 graduates from eight different countries.

The field demonstrations in the Municipal area of Singapore were arranged through the courtesy of the Municipal Commissioners and the Medical Officer of Health. In rural areas control measures were studied and practical demonstrations given. Two field demonstrations were given by the Public Works Department engineer at Johore through the courtesy of the Government of Johore and the State Engineer.

Field courses were arranged during the first three weeks in June in Java and Malaya. Seven graduates went to Java and 6 to Malaya. At Batavia special attention was devoted to methods of control of the salt water fishponds, and here biological methods used against *A. sundaicus* were demonstrated. The relation between irrigation of rice fields and the control of *A. aconitus* proved of considerable interest.

Opportunities were taken to visit the Government cinchona plantations and factory and to see the rural hygiene organisation at Poerwokerto. At Bandoeng a visit was paid to fresh water fishponds where biological measures against *A. aconitus* were studied.

CLINICAL RESEARCH

(1) An investigation was carried out on the treatment of malaria by atebrin musonat injections; the conclusion arrived at in testing it on very severe or comatose cases of malaria was that it had a very powerful therapeutic action, and was not without danger, especially as it was noted that this drug caused a definite fall in the hæmoglobin percentage, probably due to lysis of red cells in considerable numbers. Further studies were made on the effects of poisonous doses of atebrin on guinea-pig livers, on which this drug has an undoubted deleterious effect.

(2) Further investigations were continued on the treatment of beri-beri, with the object of lowering the mortality of this disease, and diminishing the lengthy period such cases spend in hospital. In this connection the effect of large doses of marmite, the exhibition of glycine (amino acetic acid) and the large increase of the amount of animal protein in the diet were tried.

(3) The effect on nephritis of injections of a vaccine made from virulent strains of hæmolytic streptococci, taken from the throat of cases of Bright's disease and detoxicated, was tried by giving long series of carefully graded doses. No beneficial effects were discovered.

(4) A classification of occupational diseases in Malays was commenced, and an investigation into a very carefully controlled series of cases of peptic ulceration treated by histidine was initiated towards the end of the year.

DENTAL CLINIC

The work in the dental clinic at the General Hospital has shown a further increase during the year. Since it was opened in April, 1930, the number of attendances has increased from 2,248 in 1930 to 20,122 in 1934 and 21,798 in 1935. The clinic is in charge of Professor E. K. TRATMAN, Professor of Dental Surgery, and the patients are utilised for the practical instruction of students attending the dental course at the King Edward VII College of Medicine.

The accommodation which had been improvised at the inception of the clinic from existing rooms and wards in the General Hospital is quite inadequate for the rapidly expanding needs of the clinic, and provision of a new building to house the dental clinic and school has been approved and will be constructed during 1936.

NEW DEVELOPMENTS

Infant Welfare.—Increasing importance is attached to this branch of medicine. Two new centres will be opened in Malacca during the year 1936.

Ophthalmology.—The appointment of an ophthalmologist and Lecturer in Ophthalmology, College of Medicine, Singapore, was approved and entered in the 1935 estimates. Dr. A. D. WILLIAMSON was appointed and assumed duties on the 9th November, 1935. Clinics have been started both at the General Hospital and Tan Tock Seng Hospital, Singapore. These units are proving of infinite benefit to those able to avail themselves of the service.

Leprosy Control.—This is a major problem not only for the Government of the Straits Settlements but for all Malaya. It has been demonstrated that the annual increase in the number of lepers is mainly due to the introduction of early cases amongst immigrants. Steps have been taken and further measures will be taken to detect as many of those early cases as possible at the ports of entry without interfering with shipping arrangements. Certain difficulties present themselves, such as the objection females take to exposing their bodies for the necessary inspection. Steps will also be taken to ensure a closer examination at the ports of embarkation. It is hoped that by these means the incidence of leprosy will commence to show a decline in some 10 years time.

Course for the Training of Pharmacists.—Arrangements were made for a new course at the King Edward VII College of Medicine, Singapore, for the training of pharmacists to begin on 1st June, 1936. An additional pharmacist has been recruited to teach the pupils.

Physical Therapy Department.—The appointment of a sister with special training has permitted a modest commencement to be made. A large open ward on the ground floor of the General Hospital, Singapore, has been fitted up with the necessary apparatus.

Sanitary Control of Aerial Navigation.—Air navigation rules under the Quarantine and Prevention of Disease Ordinance have been drafted and are now being considered by the law officers.

Government has under consideration the designation of the aerodromes at Singapore and Penang as "sanitary aerodromes". Plans are being prepared for the necessary accommodation outlined in the Sanitary Convention for Aerial Navigation. The appointment of an Assistant Health Officer for aerial navigation work at the airport of Singapore has been approved by Government.

I.—ADMINISTRATION

(A).—Staff

The shortage of officers which was experienced during the year 1934 was greatly relieved by the appointment of 13 new officers during the year 1935. Of the 13 officers appointed 3 were Lady Medical Officers. The existing shortage will be remedied in 1936 and a full establishment should be reached by the middle of that year.

I have to record with deep regret the death of Dr. F. R. SAYERS, Chief Health Officer, Singapore, which occurred in Singapore on the 30th June, 1935.

Dr. R. D. FITZGERALD, M.C., Director of Medical Services, Straits Settlements, was on furlough from the 15th February to the 5th December, 1935, during which period Dr. W. M. CHAMBERS, Deputy Director of Medical Services, acted as Director and Dr. H. R. DIVE, M.C., Superscale Grade *A* Officer, acted as Deputy Director.

Mr. C. J. SMITH, O.B.E., F.R.C.S., Senior Surgeon, Singapore, retired after a long period of public service, with effect from the 5th September, 1935.

Malayan Medical Service.—During the year 1935, 7 superscale and 28 timescale Medical and Health Officers and 7 superscale and timescale specialist officers were employed in the Colony.

The senior staff of the King Edward VII College of Medicine, Singapore, consisted of 1 Principal, 10 Professors, 1 Assistant to the Professor of Medicine and 1 Lecturer in Dental Mechanics.

Malayan Nursing Service.—The number of Matrons and Sisters in the service, including those in the Health Branch and the Mental Hospital was 88. A detailed list of the European staff is given in Table *I* on page 70.

Local Medical Service.—The staff of the local medical service numbered 72, 3 in Senior Deputies grade, 10 in Deputies grade and 59 in the Assistant Medical Officers grade. Dr. A. C. DUTTA of the Senior Deputies grade was promoted to the rank of Medical Officer as from 1st January, 1935.

The following officers were appointed during the year:—

Name	*Appointment*	*Date*
Dr. J. K. MONRO ..	Professor of Surgery, College of Medicine, Singapore ..	29th March, 1935.
Dr. O. E. FISHER ..	Medical Officer, Penang ..	19th July, 1935.
Dr. J. H. HUDSON ..	Health Officer, Singapore ..	19th July, 1935.
Dr. (Miss) J. M. MATTHEWS ..	Lady Medical Officer, Malacca	19th July, 1935.
Dr. D. E. C. MEKIE ..	Medical Officer, Singapore ..	22nd August, 1935.
Dr. A. D. WILLIAMSON	Ophthalmic Surgeon and Physician, Singapore, and Lecturer in Ophthalmology to the College of Medicine, Singapore	11th October, 1935.
Mr. J. W. SOFTLEY ..	Dental Officer and Lecturer in Dental Mechanics, College of Medicine, Singapore ..	6th December, 1935.
Dr. D. H. K. LEE ..	Professor of Physiology, College of Medicine, Singapore	20th December, 1935.

The following officers resigned or retired from the service during the year:—

Name	*Appointment*	*Date*
Dr. (Mrs.) M. E. HOPKINS	Lady Medical Officer, Penang (Temporary)	9th August, 1935, temporary appointment ceased.
Dr. C. J. SMITH, O.B.E.	Senior Surgeon, Singapore ..	5th September, 1935, retired.

(B).—Financial

The actual expenditure on medical and health services and the revenue collected in the various Settlements were:—

EXPENDITURE

	$
Singapore	2,008,602
Penang	904,939
Malacca	378,679
Labuan	23,352
Total ..	$3,315,572

REVENUE

	$
Singapore	810,114
Penang	422,725
Malacca	141,693
~~Penang~~ Labuan	3,924
Total	$1,378,456

II.—PUBLIC HEALTH

The high standard of public health which has been a feature of the past few years continued to be maintained and in certain directions was even improved upon. The outbreak of malaria in Singapore during the latter part of the year showed its effect on statistics in returning an increased mortality from malaria, but evidence of the mildness of this epidemic and of its local character is found in the fact that the general death rate of the Colony has not been affected, but on the contrary showed an improvement, namely 25.11 per mille as compared with the rate of 26.54 per mille for 1934.

Other major diseases such as beri-beri, tuberculosis, and dysentery continue to show a relatively low incidence. Mortality from beri-beri and dysentery declined slightly but there was an increase in deaths from pneumonia.

Population

The mid-year population for the year 1935 is estimated to be 1,117,023. In estimating the population of the Straits Settlements the procedure adopted since 1932 was followed. The figures for the population ascertained by the census in 1931 have been corrected by adding the balance of births over deaths, and of immigration over emigration from that date to this. This year there is also a reduction due to the recession of the Dindings to the State of Perak. The net increase in population was 59,915, made up as follows:—

(*a*) an excess of 15,139 births over the number of deaths in the Colony;

(*b*) a gain of 64,368 representing the excess of immigrants over emigrants;

(*c*) a loss of 19,592 representing persons resident in the territory of the Dindings now retroceded to the State of Perak, Federated Malay States.

The following table shows the distribution of population in each local registration area as on 30th June, 1935:—

—	Singapore	Penang	Province Wellesley	Malacca	Labuan	Total
Europeans	9,118	1,515	249	369	26	11,277
Eurasians	7,311	2,153	284	2,161	38	11,947
Malaysians	68,972	40,556	73,059	101,963	5,067	289,617
Chinese	427,962	123,993	45,571	66,880	2,220	666,626
Indians	50,304	27,629	24,487	23,238	140	125,798
Others	8,643	1,839	569	646	61	11,578
	572,310	197,685	144,219	195,257	7,552	1,117,023

Excluding the Dindings, the population is now greater than it was in 1931. The losses due to emigration in the slump years have been replaced. It is important to note that although the total population now is only slightly greater than in 1931, the proportion of children is much higher.

Births

The number of live births registered during the year was 46,649, compared with 42,974 in the previous year. The increase was greatest amongst the Chinese, and the highest birth rate recorded was that for Chinese in Singapore, at 48.54 per mille. This is a result of the increasing proportion of women in the Chinese population, and not increased fertility. The sex and age distribution of the Chinese population has altered considerably since the census in 1931, and the proportion of women of child bearing age has increased steadily. Unfortunately we have not sufficiently accurate information of the age and sex distribution of the population to describe the birth rate in terms of the female population of child bearing age.

The crude birth rates for the Straits Settlements (all races) since 1931 have been:—

1931	36.98	per mille
1932	35.83	„ „
1933	40.95	„ „
1934	40.65	„ „
1935	41.76	„ „

The ratio of male to female births was 1,069 males per 1,000 females born. Still births number 1,655. This is less than 4 per cent. of the live births, and the number is proportionately less than last year.

Deaths

The number of deaths registered was 28,050: this is one less than the number for last year, although the population at risk has increased considerably. The crude death rate was 25.11 per mille compared with 26.54 in 1934. A number of factors have influenced the death rate, and any variation in the rate cannot be accepted as evidence of a change in the health of the country without close examination. The addition to the population of a large number of immigrants, most of whom are healthy adults, should have the effect of lowering the death rate. This effect is likely to be enhanced by the removal from the population at risk of the inhabitants of the Dindings, who have a death rate higher than the average for the Straits Settlements. In short, a number of people who are a bad risk have been replaced by a greater number who are an abnormally good risk. On the other hand, the rising birth rate, and the increased number of young children, have raised the proportion of highly vulnerable individuals in the population. These opposing factors seem to be fairly evenly balanced, but the available information about the age and sex distribution of the population is not sufficiently accurate to make it possible to standardise the death rate and draw sound conclusions from slight variations in it.

Infantile Mortality

The infantile mortality rate, after correction for children born elsewhere, was 165.3 per mille compared with 171.9 in 1934. The improvement is satisfactory, but the rate is still very high although it is the lowest yet recorded in the Straits Settlements. A study of the figures published in the report of the Registrar-General of Births and Deaths shows that the infantile mortality is highest amongst Malays in Singapore and Malacca, the rate for Malays in each of these settlements being approximately 225 per mille. The infantile mortality for Chinese in the Straits Settlements is 153 per mille, and in Singapore it is 150.72.

The contrast is striking; in spite of the evil results of overcrowding in slums the chances of survival of a Chinese child in Singapore are better than those of a Malay born in the comparatively salubrious environment of Malacca.

Throughout the whole of Malaya the general infantile mortality rate rose during 1934, and fell in 1935. A possible explanation of this is that in 1934 there was an abnormal demand for labourers, and women were employed in industry to a greater extent than is usual. It is generally recognised that during periods of unemployment which do not lead to actual starvation, infantile mortality is low. The return of prosperity usually causes an increase in infantile deaths in countries that have a high birth rate.

This aspect of the problem may not be generally appreciated. For that reason the following quotation is appended from Dr. RENE SAND'S book "Health and Human Progress":—

> "............ when the mother works away from home .... mortality at birth and infantile mortality are increased. It may be objected that under this occupational factor is hidden an economic factor, that mothers who go out to work are poorer than others .... inquiry shows that even in a group with uniform resources the outdoor work of the mother has a marked influence on the health of the child .... Moreover indirect proofs abound: infantile mortality in Lancashire was at its lowest point during the unemployment due to the siege of Paris; the same observation was made during strikes which kept the women at home. In Belgium the stoppage of industry during the war led to a diminution in infant mortality which only rose again under the influence of food shortage. Lastly, it has been shown that puerperal mortality diminishes when industry is idle."

III.—HYGIENE AND SANITATION

1.—Special Diseases

(i).—MALARIA

There was a marked increase in the incidence of malaria during the year 1935. The number of deaths attributed to malaria was 1,698 as compared with 814 during the year 1934. This increase is offset, however, by a decrease in the number of deaths due to fever unspecified, which was recorded as the cause of death in 3,787 cases as compared with 4,503 cases in 1934. The combined total is less than the average of the past 10 years namely 6,318.

Thirteen thousand four hundred and thirty-two cases of malaria were admitted to Government hospitals during the year compared with 5,965 in 1934.

Admission to Government hospitals of patients diagnosed as malaria:—

Year	*Cases of malaria*
1930	13,523
1931	6,539
1932	5,757
1933	5,349
1934	5,965
1935	13,432

All cases diagnosed as malaria in Government hospitals have been confirmed by microscopical examination. The number of such cases may therefore be regarded as a reliable index of the incidence of malaria in areas served by these hospitals.

As pointed out in last year's report there was reason to believe that since the year 1931 Malaya enjoyed a period of natural recession in the incidence of malaria, which accords with the theory of the periodicity of malaria outbreaks. So it appears that in the year 1933 the trough of the wave was reached. The figures for the year 1934 showed an upward trend, while those for the year under review showed a very sharp rise.

At the time of writing this report—mid-year 1936—there is a marked decline not only in the Straits Settlements but throughout Malaya. Satisfactory as this may read, to those who are aware of actual facts and figures the position is such that anti-malaria measures must not only be maintained at present level but increased, particularly in rural areas.

(ii).—PLAGUE

No case of plague occurred.

(iii).—CHOLERA

One case of cholera occurred at Penang.

(iv).—SMALLPOX

There were 65 cases of smallpox with 21 deaths: of these 52 cases with 16 deaths occurred in the Singapore Municipal area. The first case, the abandoned body of a Chinese female child was discovered within the Municipal area on the 11th April, 1935. The first case in the rural area was found on the 27th May. This patient was a Malay male employed at the Government Printing Office, Singapore. Further cases were discovered at intervals, chiefly at Bedoh and Kampong Sungei Pus, but others at Serangoon and Geylang Serai areas. The last cases were reported on 25th August.

A total of 19 cases, all amongst Malays, were discovered in the rural area. Only a few cases were reported voluntarily, nearly all being discovered in the course of house to house searches made as the result of information given by persons not connected with the cases. Several successful prosecutions were conducted against persons who had concealed cases of smallpox.

A number of infected persons went over to the State of Johore in order to avoid detection and carried their infection with them. Most of these, if not all, were eventually discovered. In the rural area all cases occurred amongst Malays, but within the Municipal area cases occurred amongst Malays, Malaysians, Indians, Chinese, and in one case a European.

Primary vaccinations performed by the Government Health department's staff numbered 14,296 and revaccinations 25,059, making a total of 39,355, which is nearly five times as many as the number performed in 1934.

In the Municipal area 21,030 vaccinations were performed by the Municipal vaccinators and by medical practitioners. During the smallpox outbreak additional staff was employed by the Municipal Health Officer, and 148,721 revaccinations were carried out. During the same period medical practitioners reported 7,159 revaccinations. In addition, 12,847 revaccinations and 191 primary vaccinations were performed by the Government Health Officer's staff; of these 8,560 vaccinations were on school children.

Vaccine lymph was obtained from the Serological Division of the Institute for Medical Research, Kuala Lumpur, where each batch of lymph was thoroughly tested clinically prior to its issue for general use.

(v).—TYPHUS

One death was recorded as due to tropical typhus.

(vi).—ENTERIC FEVER

One hundred and seventy-seven deaths were recorded as due to enteric fever. The majority of cases were found in the large towns. Four hundred and twenty-four cases were notified to the Municipal Health Authorities in Singapore. A number of the recorded cases occurred in school children and the source of infection was almost invariably the hawkers who sell food-stuffs in the city.

(vii).—DYSENTERY AND DIARRHŒA

There were 411 deaths compared with 442 in the previous year. Of the deaths occurring in hospitals 79 were ascribed to amœbic dysentery, 129 to bacillary dysentery, 3 to mixed dysentery and 6 undefined.

The continued decrease in the mortality from these diseases during the past four years indicates a higher standard of sanitary supervision and possibly an improvement in the sanitary habits of the people inculcated by persistent health propaganda.

(viii).—CEREBRO-SPINAL MENINGITIS

Eleven cases of cerebro-spinal fever were recorded of which 9 were fatal. This is an increase of 1 case, and 1 death, over the previous year.

(ix).—DIPHTHERIA

There were 75 deaths from diphtheria during 1935 compared with 76 in 1934. The majority of cases were notified in the large towns and 193 cases were reported in Singapore. It is probable that the increasing number of deaths from diphtheria recorded in recent years has been due to more accurate certification. The following are figures for the past 10 years:—

	Deaths in the Colony	*Cases notified in Singapore city*
1926	15	46
1927	16	29
1928	21	59
1929	31	57
1930	31	63
1931	43	65
1932	56	124
1933	76	244
1934	76	254
1935	75	193

(x).—LEPROSY

Since modern treatment was introduced, lepers have sought refuge in the existing leprosoria in increasing numbers and the large number of applicants now seeking admission and treatment is proving a source of embarrassment to the administration charged with the task of accommodating them. If all cases admitted were in an early curable stage of the disease the possibility of early cure would to some extent mitigate the difficulty. But this is far from being the case and an ever increasing residue of advanced incurable cases is gradually accumulating. Of 250 lepers admitted to Pulau Jerejak Settlement in 1935 only 43 were found to be in the early stages of the disease, 62 were moderately advanced and 145 were advanced.

The problem in Malaya differs in one important respect from that in most other countries. The majority of cases occur in Chinese, many of whom are immigrants, who probably bring the disease into the country with them. Owing to the long incubation period, extending over many years, few of these immigrants show signs of the disease on arrival, although infected in China previously. The disease in such cases only manifests itself some years after the sufferers have settled in Malaya. Efforts are being made to examine Chinese and Indian immigrants for signs of early leprosy and a certain number have been detected, rejected and returned to their country under the powers conferred by the Quarantine and Prevention of Disease Ordinance.

The incidence of leprosy amongst Malays is low and the number of Malays who require segregation forms a small proportion of the leper population. Of the 1,026 patients at Pulau Jerejak Settlement, Penang, at the end of the year, only 36 were Malays.

The problem presented is one which concerns chiefly the Chinese, who account for 832 of the total 1,026 inmates at Pulau Jerejak Settlement; and this proportion probably represents reasonably accurately the relative distribution amongst races in Malaya.

(xi).—TUBERCULOSIS

The prevention of tuberculosis forms part of the routine duties of the health branch and receives attention under four main headings:—

(*a*) *Education.*—Every endeavour is made by means of films, posters, leaflets, informal talks, etc., to educate the people in methods of cleanliness and personal hygiene with a view to avoiding infection and limiting its spread. Knowledge of this kind is being steadily imparted by Health Officers, Sanitary Inspectors, Child Welfare Sisters and Nurses, and by School Medical Officers in the course of their daily duties.

(*b*) *Improvement by housing and general sanitation.*—Singapore possesses an Improvement Trust whose aim is to eradicate overcrowded slum areas and erect sanitary dwellings elsewhere with plenty of air and space. During the past few years the Improvement Trust has acquired several large blocks of slums and pulled them down or established open spaces in their centres. The Trust has built 118 better class cottages for occupation by the clerical classes and two large blocks of tenements comprising about 250 rooms. It has also erected 224 artisan's dwellings. This replacement of overcrowded, ill-ventilated slum dwellings by proper housing facilities is regarded as one of the most potent anti-tuberculosis measures we have.

(*c*) *Special measures of sanitation.*—With a view to protecting the population against the debilitating effects of malaria and ankylostomiasis, preventive and curative measures are carried out on a large scale which in their turn improve the general health and raise the natural resistance of the people and so render them less susceptible to tuberculosis.

(*d*) *Diagnosis.*—The importance of early diagnosis is given due prominence in the prevention of the spread of tuberculosis. Tuberculosis is a notifiable disease and practitioners are required by law to notify cases for which they receive a fee of $2 (4*s.* 8*d.*). The number of such notifications received from private practitioners, however, is very small as they show great reluctance to notify. The Government Outdoor Dispensaries, Travelling Dispensaries, Hospital Outpatient Departments, and Child Welfare Centres detect a number of early cases and bring them under treatment. Facilities exist at all these centres for the collection and examination or forwarding of sputa for detection of tubercle bacilli. Advice and treatment are given when necessary and arrangements are made for placing the patients under hospital treatment when such is required. In the course of regular school medical inspections special attention is directed to the detection of suspected or early cases of tuberculosis and such cases are kept under observation and given appropriate advice and treatment.

(*e*) *Treatment of Tuberculosis.*—Beds for tuberculous cases are available in all the larger hospitals and facilities exist in the following hospitals for modern medical and surgical treatment:—

I.	General Hospital, Singapore ..	84	beds for tuberculosis.
II.	Tan Tock Seng Hospital, Singapore	36	,, ,,
III.	General Hospital, Penang ..	63	,, ,,
IV.	General Hospital, Malacca ..	42	,, ,,

In the smaller district hospitals beds for tuberculosis patients are provided as required, and patients requiring special treatment can be transferred to the nearest general hospital.

The following table presents figures for the past nine years:—

Year	*Deaths from tuberculosis in the Colony*	*Deaths from tuberculosis in Singapore city*
1927	2,903	1,523
1928	2,727	1,411
1929	2,710	1,500
1930	2,795	1,622
1931	2,587	1,377
1932	2,168	1,088
1933	2,169	1,189
1934	2,276	1,253
1935	2,267	1,312

2.—General Measures of Sanitation

(i).—ANTI-MALARIAL MEASURES

The main activities of the Health Branch are directed against malaria and the Government in 1935 provided a sum of $166,000 for anti-mosquito works which was allocated as follows:—

	$
Singapore	60,000
Penang	70,000
Malacca	31,000
Labuan	5,000

These sums were expended in each Settlement on the following measures:—

(*a*) *Singapore.*—Expenditure on anti-malarial and anti-mosquito work in the rural areas was incurred from a vote of $60,000 of which $55,340.26 was spent. In addition, $11,795.10 was recovered from land owners for work performed on their land, making the total expenditure $57,135.36.

Existing permanent anti-malarial drainage works were maintained. Thirteen hundred and forty-six feet of existing subsoil drains were taken up and relaid. New subsoil drains with a total length of 7,389 feet were laid and new brick and concrete open drains, with a length of 1,415 feet, were constructed. At the end of the year work was in progress: (*a*) on new permanent anti-malarial drainage on the Crown Road reserve adjacent to the Singapore Turf Club property, Bukit Timah Road; (*b*) at Lowland Road, Serangoon; (*c*) on Lazarus Island and (*d*) on St. John's Island.

Temporary anti-malarial measures, consisting of draining land by open earth drains, and oiling streams, drains and collections of water, as required, were extensively carried out. Over 41,000 gallons of oil were used, the cost of oil amounted to $6,728. Oiling is done with discrimination. The need of oiling is determined by investigation, including the examination of residents and mosquito surveys in each area.

In the course of routine and special investigations 23,636 larvæ were collected and identified. In certain areas work was carried out in conjunction with the Naval, Military and Air Force Authorities, with whom co-operation was maintained throughout the year.

In recent years the Government has spent more than $1,100,000 on anti-malarial measures in Singapore, but many areas still remain in which permanent anti-malarial drainage is needed.

(*b*) *Penang.*—A provision of $70,000 was made for anti-mosquito work in the Northern Settlement during the year. Since 1926 the Health Branch has gradually extended its measures for the permanent control of malaria in villages throughout the rural areas of Penang and Province Wellesley. Complete anti-malaria protection is also assured for the whole of Penang Hill residential area, and for Pulau Jerejak Quarantine Station and Leper Settlement.

The seriousness of the malaria problem throughout the hilly districts of the Northern Settlement is due to the widespread distribution of breeding for *Anopheles maculatus.* Measures directed against the larval stage, of the mosquito are associated with general sanitary measures and, in some selected areas, drug prophylaxis is practised in addition. There is also free distribution of quinine. Anti-larval operations extend to within a distance of half a mile of the outskirts of malarial villages. Anti-larval control is effected by the application of larvicide (anti-malaria oil or Paris Green) to all the breeding places of dangerous mosquitoes within the protection zone, followed by the construction of permanent protection-works, such as drainage and earth filling, to replace by gradual degrees such anti-malaria measures as are lacking in permanence and reliability. Considerable progress has been made with the flushing of hill and lowland streams by means of automatic and hand-operated sluices. Good results are also being obtained with other inexpensive anti-larval measures such as "fascine" drainage, stone-packing and covering of walls.

On Penang Island in addition to work that is done within Municipal limits, the districts wherein there is protection from malaria extend over a area of 19.75 square miles.

In Province Wellesley, in addition to rubber estates, where supervision over malaria control measures is exercised by the Health Branch, an attempt is being made to give effective protection from malaria to many villages.

There are two problems in Province Wellesley, the control of malaria in rural areas, and the control of malaria in towns. Both problems have been made more difficult in recent years by the apparent increase in the carrying power of *A. barbirostris.*

The increase in malaria carried by *A. barbirostris* has been most noticeable in Butterworth. There has always been some malaria in this town, but in 1933 a distinct rise was noticed in the autumn, with a peak of 49 cases in December. In 1934 a greater rise occurred, with a peak of 108 diagnosed cases in November. The Health Officer succeeded in proving that *A. barbirostris* was the carrier. The number of cases remained high until July 1935, when a definite campaign against this species was begun. All breeding places which could be oiled were oiled, and extra coolies were employed for the purpose of clearing out drains. A series of deep ponds were opened up to the tidal Prai river and a series of swamps at the back of the town were treated with Paris Green. The result has been a steady fall in the number of reported cases and in December 1935 only 10 such cases occurred. The autumnal rise was completely eliminated.

Butterworth village area is practically undrained. With the much appreciated help of the Public Works Department a main drainage scheme was planned, and this has been submitted to the Rural Board. It is probable that work on drainage of the town will be begun in 1937. The essence of the scheme is to open up the old drainage channels to the Prai river.

In Sungei Bakap the only species of mosquito controlled up to the present has been *A. maculatus*. *A. barbirostris* will have to be controlled in 1936. One of the greatest difficulties in malaria control in Sungei Bakap is the silting of the streams with sand brought down from the hills behind the town. The ravines in the hills behind the town have been cleared by Chinese cultivators so that, unprotected by vegetation, scouring occurs in the water courses.

Outside protected areas there has been an increase in malaria in all districts. Villages which hitherto have been considered healthy have been contributing their malaria cases to the hospital returns, and it would appear that flat lands are no longer as free from malaria as they have been in the past. As in Butterworth, the carrier is probably *A. barbirostris*. The Drainage and Irrigation Department is draining the land as fast as possible for agricultural purposes. Such drainage should assist in the control of malaria. Treatment is hindered by the reluctance of the rural population to have their blood taken for examination for malaria and by the fact that the travelling dispensary cannot visit places more often than once in fourteen days.

The following table gives a resumé of work done:—

—	Notices served	Feet of subsoil drains relaid	Feet of open masonry drains constructed or repaired	Feet of earth drains dug and graded	Anti-malaria wells constructed	Cubic yards of earth or stone filling	Gallons of oil used	Mosquito larvæ examined
Penang ...	27	23,000	2,368	4,492	52	2,491	39,721	49,019
Province Wellesley ..	65	1,147	902	109,670	8	11,048	23,261	39,611

(*c*) *Malacca.*—Anti-malarial work is under the direct supervision of the Health Officer, who has the assistance of a mosquito inspector, a larvæ searcher and 3 overseers in the Central District, and 1 overseer in each of the other districts. The Assistant Health Officer and the Sanitary Inspectors in the Northern and Southern Districts exercise local control of the measures carried out.

During 1935 special and routine survey work was carried out in all districts, but owing to the shortage of staff it was impossible to do much in this direction and the lack of data regarding breeding places of anopheline mosquitoes makes it difficult to dogmatise as to the presence or absence of dangerous conditions in Malacca.

Such data as are available suggest that there is less malaria in Malacca than one would expect in such a large Settlement, much of which is hilly country. It is suggested that this encouraging condition is due to the fact that most of Malacca territory has been opened up for cultivation for many years. Nevertheless areas of malarious country exist, and were controlled as effectively as was possible with the annual provision of $31,000.

During the year $26,427.59 was spent on temporary measures and $4,536.53 on permanent measures, giving a total expenditure of $30,964.

A number of new breeding places of *A. maculatus* were found and were put under oiling, necessitating additions to the oiling gangs and increased expenditure on oiling with a necessarily reduced expenditure on permanent work.

(*d*) *Labuan.*—The total expenditure on anti-malarial measures for the whole year was $5,070.27. Oiling was continued over an area of about two square miles in the town and suburban districts. Three thousand two hundred gallons of anti-malaria mixture were used at a cost of $720, excluding the cost of labour which amounted to $360.

One thousand two hundred yards of earth drains were dug during the year. In addition 9,450 yards of existing earth drains were kept cleared and oiled. Thirty acres was cleared to give access for oiling.

The following permanent works have been carried out during the year under review.

Over 1,000 feet of subsoil pipes have been laid, 940 feet of open concrete drains, and 5,800 cubic yards of earth used for filling and levelling. A tidal gate is being constructed.

Regular mosquito survey of houses inside the oiling area was continued, thus controlling the breeding of Stegomyia and Culicines. For this purpose 3,615 house to house visits were made during the year.

(ii).—SEWAGE DISPOSAL

(*a*) *Singapore.*—In village areas latrines are at present mostly of the bucket type, and the nightsoil is collected by coolies employed by contractors and disposed of by trenching or in sewage disposal installations erected by the Rural Board. The system worked well during the year. There were 4,553 latrines on the daily removal list, an increase of 444 over 1934.

The Sanitary Inspectors inspected 12,256 latrines and took action to secure improvement as required.

Five hundred and twelve latrines were demolished and 882 constructed or reconstructed.

In the less thickly populated areas bucket latrines have certain disadvantages and arrangements have now been made for a more extensive use of "bore-hole" latrines in suitable areas. Where there is no danger of polluting water supplies, the "bore-hole" latrine is safe and economical and makes the abuse of nightsoil as a manure impossible.

Sewage disposal plants are used at many private houses. Many of the older installations are not suitable for built up areas and strict scrutiny of plans and construction will be essential in future.

(*b*) *Penang.*—Pail latrines are obligatory in places where buildings are close together; elsewhere in villages and throughout the rural area "bored-hole latrines" or corresponding types of sanitary conveniences are provided by the responsible occupier. Owing to the adoption of the contract system, these conservancy schemes are self supporting and can be adapted to suit the different circumstances met with in each locality. Throughout the residential area of Penang Hill, and in a number of residences along the coast road, water carriage and septic tank systems are installed.

During the year 951 latrines have been constructed or reconditioned so as to render them sanitary. Insanitary latrines to the number of 305 have been demolished. Two hundred and ninety-five deep bore-hole latrines have been constructed and 108 pit latrines have been dug upon instruction by the sanitary inspectors. Sale of nightsoil for manure is not permitted and as a rule disposal is effected by trenching. Throughout the rural areas action is taken to minimise the risk of soil and water pollution.

(*c*) *Malacca.*—Nightsoil is disposed of in most instances by trenching, but in two villages it is disposed of in septic tanks.

(*d*) *Labuan.*—Nightsoil is collected from all approved type latrines in the town and suburban areas by four coolies, supervised by a mandore under Rural Board control. Almost all the houses in the town area now have approved type latrines.

Up to the end of September, 1935, nightsoil was disposed of by dumping in the sea half a mile from the shore during ebb tide. This method of disposal was found unsatisfactory and trenching is now carried out.

(iii).—REFUSE DISPOSAL

(*a*) *Singapore.*—Each house is required to have a sanitary dust-bin. The contents of dust-bins are removed daily by coolies employed by the Government Health Department, either to incinerators, or to collecting stations where the refuse is placed in large bins from which it is removed daily to one or other of the incinerators by a contractor.

The amount of refuse removed has greatly increased during 1935, when the daily average as recorded by the Sanitary Inspectors was 7,728 cubic feet against 5,564 in 1934.

Twenty-four incinerators were in regular daily use.

Controlled tipping is carried out on a small scale and will be more widely practised in future where conditions are suitable. Controlled tipping allows the reclamation of waste land and sometimes enables the abolition of swamps to be combined with the economical disposal of refuse.

(*b*) *Penang.*—The occupiers of all licensed premises and better class houses in gazetted villages are required to possess and use rubbish bins of an approved type; in addition, Rural Board refuse bins are placed on concrete platforms along the roadside in places convenient for the public. Domestic refuse collected in these bins together with road sweepings, is collected into hand-carts and disposed of either by incineration in the village incinerators or by "controlled tipping".

There are 41 village incinerators within gazetted areas and, in addition, three on Penang Hill.

(*c*) *Malacca.*—Both scavenging and conservancy are carried out by direct labour under the control of the Health Officer in the larger villages and in the majority of the smaller villages.

A programme of replacement of inefficient incinerators was commenced during the year and four Horsfall incinerators with large, concrete, sorting platforms and abestos roofing were installed at Pringgit, Jasin, Merlimau and Sungei Rambei.

(*d*) *Labuan.*—The rubbish collected (more than 10 cubic feet daily) was disposed of by dumping in swampy areas and covering with earth. The provision of an incinerator was delayed, but a portable one of the best type is to be put up in 1936.

The collection of refuse from streets, back-lanes, and so forth was done in previous years by contract labour. This was found to be very unsatisfactory. The method of direct control is now employed and is satisfactory.

(iv).—WATER SUPPLIES

(*a*) *Singapore.*—Water supplies of all types are found in the Rural Area, from shallow holes in the ground to a piped supply of very high quality, available in many places from Municipal mains.

While in general there has been no evidence of outbreak of disease due to polluted water supplies few of them can be considered fully satisfactory. It is difficult to get householders, occupiers of licensed premises and employers to make satisfactory protected wells and even when a reasonably good well is constructed it usually lacks the cover and pump essential for safety. No well which is open to all who bring their buckets and wash the dirt off them into the well as they draw water can be considered safe.

Where there are anti-malarial subsoil drains, provision is made for people to obtain water and to bathe and wash clothes. A supply from shallow subsoil pipes while in many cases fairly good cannot always be considered safe. It is however, under favourable circumstances better than available alternative supplies.

The gradual extension of the Municipal water mains is most welcome but is limited by the funds at the disposal of the Rural Board. Water supplies to the number of forty-three were taken.

(*b*) *Penang.*—The water supply of George Town, Penang, is good in quality and abundant. A number of the surrounding villages are served with Municipal supplies.

Elsewhere in rural areas, spring water is as a rule plentiful along the foothills, but in such situations malaria is also prevalent and wherever practicable anti-malaria drainage schemes are specially designed to provide wholesome water and good bathing facilities for the villagers.

These new water supplies, of which there are now one hundred and thirty in daily use, have proved most beneficial to health and are very popular with the inhabitants. Protected wells are provided in the majority of villages and kampongs on flat land.

Province Wellesley.—Nibong Tebal and Sungei Bakap have a good water supply provided by the Public Works Department. The water is collected in a reservoir at Bukit Panchor where it is filtered. The quality of the water supplied is good. There are, however, still too many insanitary wells.

Butterworth is supplied with water from Bukit Brapit reservoir at Bukit Mertajam. The water is not treated except by storage. During the drier months of the year there is a considerable algal growth in the stagnant water in the reservoir and this, passing through iron pipes, imparts a brown colour to the water. During the wet season bacillus coli count begins to fluctuate showing that contamination can occur. The water is also insufficient in amount so that a considerable proportion of the population of Butterworth have insanitary wells near their houses.

The water supplied to Butterworth is insufficient in amount, liable to contamination, and unsuitable for domestic purposes. Steps are being taken to provide an adequate and safe supply.

Bukit Mertajam gets its water supply partly from the same source as Butterworth and partly from a stream at Chero To'Kun. The catchment area of the Chero To'Kun stream is largely covered by fruit plantations. In the wet season variations in the bacillus coli count occur and, as the catchment area is used by man, the supply is unsafe. It is essential that this water should be adequately treated before it is supplied to the town.

(*c*) *Malacca.*—Owing to pollution of the Malacca water supply, especially during the rainy season, the Municipal Commissioners of Malacca have secured a loan of $200,000 to permit the installation of a high pressure filtration plant.

(*d*) *Labuan.*—The nature of water supply remains the same as in the previous year. Water is supplied from the reservoir unfiltered.

(v).—OFFENSIVE TRADES

(*a*) *Singapore.*—The inspection of premises licensed by the Rural Board under section 204 of Ordinance No. 135 (Municipal) is mainly carried out by the Inspector of Offensive Trades. One thousand five hundred and thirty visits of inspection were made to 323 licensed premises and 1,478 visits to other premises such as piggeries, dairies, stables, etc.

The number of licensed piggeries was 839 but an animal census disclosed 5,813 piggeries in the rural area. An attempt will be made to have these piggeries licensed in 1936.

(*b*) *Penang.*—The Health Staff undertakes regular sanitary surveys for the improvement of housing conditions and for the supervision of coffee shops, eating houses, bakeries, dairies, cattle-sheds, pigstyes, slaughter houses and offensive trades. Action is taken where necessary under appropriate laws or by-laws to stimulate public opinion or to enforce public health requirements.

The following figures refer to routine inspections carried out by the sanitary staff:—

No. of inspections of:—	*Rural Penang*	*Province Wellesley*
Houses	6,154	17,041
Latrines	11,205	22,624
Police stations ..	226	349
Schools	564	424
Estates and copra sheds	268	202
Cattle sheds ..	1,027	888
Pig-styes	3,101	1,094

(*c*) *Malacca.*—The following inspections were carried out by the sanitary staff during the period under review:—

Eating shops	12,074
Slaughter houses	1,124
Markets	1,005
Dairies	415
Pig-styes	1,676
Cattle sheds	391

(*d*) *Labuan.*—The following figures given an idea of the work under this section:—

INSPECTIONS	
House to house	846
Police station	22
Latrines	421
Dairies	37
Cattle sheds	84
Milk vendors	48
Pig-styes	134
Bakeries	68
Coffee shops and eating houses	184
Markets	280
Slaughter houses	426
Inspection of animals for slaughtering	581
Inspection of animals imported into the Settlement	111
Inspection of animals exported from the Settlement	97

(vi).—HOUSE INSPECTION

Detailed sanitary surveys of many villages were carried out during the year. In some of the villages, the surveys revealed the existence of overcrowding and some highly insanitary properties. Lighting and ventilation were in many instances deficient; drains were improperly constructed; and latrines were found in a highly insanitary condition. Steps were taken against a number of offenders.

(vii).—ESTATE VISITING

Officers of the Health Branch regularly visited estates throughout the year. During the period of economic stress under which all estates have laboured, little pressure has been exercised to undertake expensive sanitary measures. Since the advent of a moderate degree of prosperity, beginning in 1934, action has been taken to ensure better housing and sanitary conditions for labourers where they are required. It is now considered necessary to insist, in an increasing number of instances, on the maintenance of anti-malaria measures at a higher level of efficiency in view of the increased incidence of malaria. Steps have also been taken to ensure that large estates employ a resident dresser, and smaller estates a visiting dresser, where such are not already employed.

In general, it is found that owners and managers of the larger estates are glad to accept advice from Health Officers, and that they fully appreciate the economic advantages of the measures recommended for the improvement of health conditions on the estates.

Penang.—Estates on Penang island subject to medical inspection are 30 in number, of which only 4 are over 100 acres in extent. There are 213 estates over 25 acres in extent in Province Wellesley; regular bi-annual visits of inspection by the Health Officer are made to 67 of these estates; of these 27 receive, in addition, special and routine visits by private medical practitioners. There is a resident medical practitioner on the Caledonia group of estates. A number of estates are still exempt from inspection by reason of their having no resident labour force. There are three estate hospitals in Province Wellesley; elsewhere patients requiring hospital treatment are sent to the nearest Government hospital.

Malacca.—The health of the population of Malacca estates is largely controlled by the Senior Medical Officer of the Malacca Agricultural Medical Board who has one European Medical Officer and two Assistant Medical Officers to assist him.

Visits are paid to estates by the Health Officer as and when opportunity affords, but it is impossible for him to inspect every estate annually.

Almost all estates showed a rise in the incidence of malaria during the malarious season and one estate, Batu Berkarat, had a serious epidemic, which was rapidly controlled by the exhibition of Atebrin.

(viii).—SCHOOL HYGIENE

(*a*) *Singapore.*—Girls' schools are visited and inspected and the children and teachers examined by the Lady Health Officer, Schools. Boys' schools are visited by the Assistant Health Officer, Schools, who examines the boys and inspects the school buildings. In certain schools, the Lady Health Officer, Schools, sees boys up to twelve years of age.

The Lady Health Officer, Schools, examined 8,331 children in 32 schools and of these pupils 7,388 were referred for treatment. Malnutrition was rare and was found almost exclusively in boys. Dental caries was found in over 88 per cent. of the pupils examined and accounts for the majority of the children referred for treatment.

Defective vision was common, two-thirds of the pupils affected were found on re-examination to have been provided with suitable glasses. Two hundred and five children were found to be suffering from minor eye affections. A few cases of trachoma were detected.

Enlarged tonsils and adenoids were found in 16.85 per cent. of the children, of these, 43.87 per cent. were found to have improved on re-examination. Conservative treatment was advised in most instances.

Enlarged cervical glands were found in 62.5 per cent. but the enlargement was nearly always slight. Disease of the ear was found in 31 children. Anæmia was found in 121 children, mostly Malay girls, improvement was secured in 73 per cent. of these after worm treatment. Skin diseases were found in 413 children.

Infectious diseases were on the whole rare. There were 55 cases of enteric fever. Only one enlarged spleen was diagnosed.

Teachers and pupils at Malay Girls' Schools were examined for worm infestation and 10 per cent. of 420 stools showed hookworm infestation but over 70 per cent. roundworm infestation.

Two hundred and forty-five locally trained female teachers were examined, the majority were found to be in good health. Dental caries was the most common defect and was found in 50, of whom 30 had treatment.

The Assistant Health Officer, Schools, made a routine examination of 10,432 boys in 44 schools, but for purposes of general school hygiene 692 visits were made to 378 schools. Sanitation at Government schools and at Government Aided English schools was satisfactory but at private English and vernacular schools it was defective.

The Sanitary Inspector, Schools, visited 378 schools in addition. Three hundred and forty-one visits were made to schools in the Rural Area by the District Sanitary Inspectors.

Malnutrition in boys' schools as in girls' schools was rare and was severe in less than one per cent. of the children.

Dental caries was found in 28.47 per cent. rather less than in previous years and treatment was recommended. Free treatment is available for Malays. Defective vision was found in 247 cases or 2.37 per cent. Disease of the eye was found in 167 or 1.6 per cent. mainly conjunctivitis, styes and squint. No case of trachoma was found. Enlarged tonsils and adenoids were found in 3.15 per cent. of boys examined but only boys showing inflammation were referred for treatment. Skin diseases were present in 643 boys or 6.16 per cent.; including 47 or 0.45 per cent. scabies and 142 or 1.36 per cent. ringworm.

Infectious diseases showed no special incidence apart from 28 cases of enteric fever. Enlarged spleens found were 49 or 0.47 per cent. the spleen rate being highest in Malays, especially at Geylang Malay School where it was 5.1 per cent. while at Geylang English School, it was 2.18 per cent.

School teachers were also examined by the Assistant Health Officer, Schools, and of 309 examined, dental caries was found in 22, defective vision in 8, pharyngitis in 4, tuberculosis in 2 and valvular disease of the heart in 1.

Special attention was given by the Assistant Health Officer, Schools, to the matter of food supplied to school children and hawkers admitted to school compounds were examined. Schools were encouraged to run their own tuck shops or to employ a contractor under supervision to cater for the children.

(*b*) *Penang.*—School medical and health work in Penang and Province Wellesley is carried out under the general supervision of the Senior Health Officer. A whole time Assistant Health Officer, Schools, is engaged on medical and health inspection in boys schools in the urban and rural areas of Penang Island.

In Province Wellesley, the Health Officer and the District Medical Officers carry out sanitary and health supervision in schools and undertake annual medical inspection in all Malay vernacular and Government aided schools.

The Lady Medical Officer is a part time school Medical Officer. She carries out an annual inspection in girls schools in Penang and Province Wellesley and reports to the Senior Health Officer on the sanitary conditions of these schools at the time of her inspection.

During the year 94 Malay vernacular schools (boys and girls) with a nominal roll of 12,371 children and 22 English schools with an enrolment of 9,148 children were under medical and sanitary surveillance. In addition there were 124 Chinese and Tamil schools, private or aided, with a roll of 12,577 which are at present subject only to sanitary supervision. The health conditions in these schools are being brought gradually into accordance with the regulations of the Schools Ordinance.

As in previous years, special emphasis has been laid upon the correction or treatment of defects discovered in the course of school medical inspection and on the preventive aspect of disease.

MEDICAL INSPECTION

Prevailing ignorance of early signs of disease makes it desirable that every child attending school should be medically examined at least once a year. The large number of children attending school restricts this policy to Malay vernacular and English Government and Government Aided schools only, but increasing advantage is being taken by parents and head teachers to call in the Medical or Health Officer in cases where illness is suspected.

These supplementary examinations usually concern children in whom some communicable disease is suspected by teachers or pupils or where children have been long absent from school. A sick register is now commonly kept by the teachers in Malay vernacular schools from which the inspecting officer obtains valuable information.

During the year under review the inspecting officers have recorded inspections of approximately 90 per cent. of the children in the register. In the case of English and Malay schools the details of examination are recorded on a special card. These cards are available for the children during the whole of their school career.

RESULTS OF MEDICAL INSPECTION

The following table gives the summary of medical examination in boys and girls schools for the year 1935:—

Details of Medical inspection	BOYS						GIRLS			
	English Schools, Penang		Vernacular Schools, Penang		Vernacular Schools, Province Wellesley		English Schools		Vernacular Schools	
Number of children examined . .	4,910	Percentage	2,659	Percentage	3,676	Percentage	1,650	Percentage	1,459	Percentage
Number of children recommended for treatment (excluding dental defects and worm infections) ...	1,116	22·7	665	25·0	952	25·9	687	41·6	543	37·2
Number of children with gross dental defects ...	2,732	55·6	1,610	60·5	1,729	47·0	1,088	65·9	1,037	71·1
Number of children with defects of ear, nose and throat ...	295	6·0	216	8·2	385	10·5	351	21·3	339	23·2
Number of children with skin infections ...	335	6·8	289	10·8	569	15·5	276	16·7	154	10·5

CORRECTION OF DEFECTS (Treatment and Advice)

The table given above reveals the great number of physical defects which obviously call for medical attention or advice.

In urban areas, the parents of children who suffer from ill-health are informed through the heads of schools in writing. It is the practice to point out that medical examination or advice should be obtained from private medical practitioners in the case of the well-to-do and that the use of Government dispensaries and clinics is restricted to the children of those who cannot afford private medical treatment. Despite this restriction, Government dispensaries and clinics are usually overcrowded and this entails a lot of waiting by those who seek treatment.

In rural areas treatment is generally secured through the agency of the travelling dispensaries which pay regular visits to schools throughout rural Penang and Province Wellesley. Heads of schools and teachers continue to give willing co-operation in this connection but there is still much indifference shown by many parents.

Special afternoon sessions are held daily at the eye clinic, General Hospital, Penang, for school children suspected of eye defects. Treatment recommended was adopted by about 65 per cent. of the cases examined. One feature revealed by examination of school children at the eye clinic is that most cases of strasbismus (squint) met with are not amenable to any treatment available other than operative procedure which almost always is refused. As a consequence children with this defect are liable to be severely handicapped not only during school life but after leaving school.

Arrangements for the treatment of minor ailments in most schools are satisfactory. The Assistant Health Officer, Schools, undertakes the supervision of such treatment and regular visits are paid to Malay boys' schools for this purpose. During the year 316 such visits were paid to 35 schools. The Anglo-Chinese School maintains a clinic where treatment for minor ailments is carried out by a nurse and the Assistant Health Officer also pays regular visits to this clinic.

Worm infestation and yaws infections received special attention. The pupils in Malay vernacular schools and in some English schools were examined and special worm treatment was given to those found infested. The following table records the incidence of worm infections in Malay boys' schools in urban and rural areas.

	Urban Malay Schools	*Rural Malay Schools*
No. examined	1,000	1,982
No. with hookworm infection ..	269 (26.9%)	596 (30.07%)
No. with roundworm infection ..	772 (77.2%)	352 (68.21%)

The number of children who received worm treatment totalled 1,032. Regular treatment was given for yaws infection.

PREVENTIVE VACCINATION AND INOCULATION

No serious outbreak of infectious disease occurred during the year. Special attention continued to be paid to the detection and control of communicable diseases among school children.

Owing to a small outbreak of diphtheria in a family of school children, Shick tests were carried out on 12 selected children and 5 of these were found to be positive.

HEALTH EDUCATION

Informal talks on hygiene and first aid were given by the inspecting Medical Officers who visited these schools. During the year the Assistant Health Officer, Schools, gave 67 such lectures illustrated by the exhibition of posters and pamphlets. The ordinary hygiene of washing hands (especially after toilet), brushing teeth, cleanliness of hair and dress and proper use of the handkerchief (handkerchief drill) are specially emphasised. Advice regarding such aspects of personal hygiene as diet, rest, and exercise is given to individual children during the course of medical inspection. Such instruction appears to be more appreciated than "mass" formal lectures or talks.

SANITATION (Sanitary Supervision)

Constant efforts have been made to secure the provision of satisfactory sanitary accommodation in all Government, Government aided and private schools. Progress in this policy has been maintained and the co-operation of the Municipal Health Officer is obtained in the institution of improvements in the numerous private schools in town.

Suggestions for improvements in the feeding arrangements in English schools in Penang continue to be made. There is still pressing need for a system of feeding arrangements whereby itinerant hawkers are replaced by a minimum number of carefully selected caterers who can be kept under adequate medical supervision and who will prepare and leave food in a proper manner. The construction of suitable kitchens and luncheon sheds in schools would assist greatly in this direction.

(*c*) *Malacca*—

Boys English Schools—

			Total examined
Total number of pupils examined	..	..	1,774
Number of pupils with enlarged spleens	..	3	
Number of pupils with carious teeth	..	1,198	
Number of pupils with enlarged tonsils	..	58	

Girls English Schools—

Total number of pupils examined	..	..	1,002
Number of pupils with enlarged spleens	..	0	
Number of pupils with carious teeth	..	456	
Number of pupils with enlarged tonsils	..	97	

Malay Vernacular Schools (Boys)—

	Central District	*Northern District*	*Southern District*		
Total number of pupils examined ..	2,932	3,313	2,042	=	8,287
Number of pupils with enlarged spleens ..	80	93	187		
Number of pupils with carious teeth	2,023	1,165	911		
Number of pupils with enlarged tonsils ..	63	140	66		

Malay Vernacular Schools (Girls)—

	Central District	*Northern District*	*Southern District*		
Total number of pupils examined ..	149	82	87	=	318
Number of pupils with enlarged spleens ..	—	—	1		
Number of pupils with carious teeth	86	55	49		
Number of pupils with enlarged tonsils ..	22	6	20		

Grand total of pupils examined .. 11,381

(ix).—LABOUR CONDITIONS

(*A*).—On Estates

The general labour position in the Colony during 1935 was stable. Immigration continued but to a less extent than in 1935. The number of Indian assisted immigrants for the whole of Malaya was 20,771, while 44,420 travelled at their own expense. Indians going back to their own country numbered 38,867, leaving a net increase of Indians amounting to 26,322. Only a small proportion of these remained in the Straits Settlements. Out of a total Indian population of 125,798 in the Straits Settlements, 22,390 (including women and children) are resident on estates.

Chinese immigration continued to be restricted by the Aliens Ordinance, which fixed the immigration quota at 4,000 a month. The number of Chinese who entered the Colony under quota was 47,407 while 15,119 entered under permits.

A very small proportion of the Chinese labouring population in the Straits Settlements is recorded as working on estates, only 2,839 including women and children. The Javanese estate labour population numbered 1,687 including women and children.

The health of estate labourers was less satisfactory than for the preceding year because of the increase in the incidence of malaria.

The majority of the labour population in the Straits Settlements are not employed on estates and mines, but as labourers on construction work, at docks, on Government and Municipal public works and on the numerous industries of Singapore and Penang. The demand for labour has been well maintained and there has been no serious amount of unemployment amongst workers of the coolie class. Their general health has been well maintained, apart from the increase in malaria.

(*B*).—In Government Departments

In common with other classes of labour the general health of Government labourers has been satisfactory and no difficulty was experienced during the year in housing them in spite of the increase in the number employed. Free hospital and dispensary treatment is provided for all Government labourers and the travelling dispensaries attend to the needs of the sick in outlying areas.

(x).—HOUSING AND TOWN PLANNING

(*a*) *Singapore*.—The control of the lay-out of land is vested in the Singapore Improvement Trust who consider every lay-out and subdivision.

After a lay-out has been prepared to the satisfaction of the Trust, it is referred to the Chairman of the Rural Board who obtains the views of the Chief Health Officer and the Senior Executive Engineer before approving it.

Many permanent and substantial buildings have been erected on land in the Rural Area adjacent to the Municipal Area, but the usual type of building met with is the plank and corrugated iron or attap house. The Rural Board has laid down certain minimum requirements designed to secure rooms of adequate size with sufficient lighting and ventilation.

Adequate housing is becoming more and more necessary and will soon be essential to secure even and harmonious development in the Rural Area. It is evident that an increasing number of persons employed in Singapore will reside in the Rural Area, certain areas could with advantage be reserved for houses of various classes. In many parts, where there is as yet no tendency to residential or industrial development, the need of zoning is not immediate.

A feature to be noted in 1935 was the commencement of schemes for the subdivision of land into sites for residential buildings, the sites to be sold to persons wishing to build. While the lay-outs are subject to consideration by the Singapore Improvement Trust and the Rural Board, no provision is made for sewage disposal or drainage, with the result that nuisance has arisen and will arise more frequently in future from the many small sewage plants, without proper outlets for their effluent, and from sullage and other drains which end blindly at the boundaries between the lots of land.

In 1935, the Sanitary Inspectors made 21,265 house to house inspections. Seventy-two plans for new buildings were passed and 476 permits for new buildings issued by the Board. Two hundred and seven buildings were reconstructed.

(*b*) *Penang.*—There are approximately 14,000 houses in rural Penang and of these over 3,000 are within gazetted village limits. In Province Wellesley there are 36,000 houses with nearly 7,000 in village limits. In addition to regular inspection of all schools, police stations and public buildings in their respective districts, the sanitary inspectors reported upon 23,196 house to house inspections in the course of their routine duties.

Verbal advice and warning to remedy sanitary defects are generally given and followed by an intimation notice, if not complied with, nuisance notices are subsequently served.

Overcrowding and consequent lack of ventilation is the commonest defect in all types of dwellings in village areas but considerable improvement has been effected in recent years as a result of inspections by the Sanitary Authorities.

Ayer Itam Village was burnt down during the year; many new shop houses and a new market were built.

(xi).—FOOD IN RELATION TO HEALTH AND DISEASE

(*a*) *Singapore.*—All premises where food is prepared for sale are inspected and licensed. Business in the Rural Area is as a rule on a small scale though there was one large pineapple factory in operation. Coffee shops, etc., are licensed by the police but all applications are referred to the Health Department.

The Rural Area contains many piggeries and vegetable gardens, the produce of which is sold mainly in the Municipal Area but most food producers carry on business in a small way and under primitive conditions.

Apart from the single pineapple factory there were 4 fruit preserving works for the manufacture of Chinese preserved fruits, 2 small meat and vegetable canneries, 2 sauce factories, 3 sugar boiling businesses of small size and 2 licensed bakeries.

There were 24 dairies of which only the two under European management were satisfactory. Measures were taken to secure improvement but the cattle keepers are ignorant and poor, their cattle are poor yielders; the improvement of cattlesheds, while the ideas and habits of the cattle-owners remain unchanged, is unlikely to produce any marked improvement in the quality of the milk sold.

On the whole, slaughter houses have improved but it is not possible for the Sanitary Inspectors to supervise slaughter and inspect meat before it goes to the vendors. Thus while over 2,000 pigs a month are killed, no carcases are condemned for disease. It is true, however, that little diseased meat is seen on the pork stalls. The concentration of slaughtering in one or two slaughter houses built, owned and supervised by the Rural Board would obviate this defect.

Some general improvement in licensed premises was secured during the year. Twelve thousand eight hundred and seventy-eight visits of inspection were made in 1935 to premises connected with the preparation and sale of food.

(*b*) *Penang.*—The inspection and control of food is carried out by the Municipal and Government Health Officers in their respective areas. There are markets in all the principal towns and villages.

Milk vendors, eating houses, coffee shops, meat shops and aerated water factories are licensed and inspected. Water, milk and other beverages and food stuffs, both local and imported, are regularly analysed, and action is taken if indicated.

The practice of referring to the Health Branch applications for licenses for coffee shops, eating shops, slaughter houses, markets, milk vendors, etc., has been continued with satisfactory sanitary results.

Inspections, as tabulated, were carried out in the Northern Settlement:—

——	Eating houses and coffee shops	Toddy shops	Markets	Milk vendors and cowsheds	Bakeries etc.	Slaughter houses
Penang	1,879	99	908	1,152	135	291
Province Wellesley	2,779	127	1,448	1,796	589	592

In addition, bakeries, fishmongers' shops, grocers' shops, toddy and chandu shops were regularly inspected.

(xii).—MEASURES TAKEN TO SPREAD KNOWLEDGE OF HYGIENE AND SANITATION

While all the Sanitary Inspectors try to explain in the course of their work the reasons for the various requirements insisted on in buildings, licensed premises, etc., systematic propaganda is confined to the schools and the Infant Welfare Centres. The Health Matron and Sisters attach particular importance to the instruction of mothers in hygiene and in the care of infants and children, and the Staff Nurses and Midwives give advice and instruction in the homes they visit.

In the schools hygiene is systematically taught by teachers and their efforts are supported by the school medical staff who give lectures and show health films to children.

(xiii).—TRAINING OF SANITARY PERSONNEL

A course is held annually in Singapore for candidates for the Certificate of the Royal Sanitary Institute of London. The course is both theoretical and practical and is followed by the examination—written, practical and oral. In 1935, 15 private and 10 Government students attended the course. Thirty-three candidates appeared for the examination, of whom 17 were successful.

IV.—PORT HEALTH WORK AND ADMINISTRATION

(A).—Singapore

1. Names of ports against which quarantine measures were declared during the year:—

   Bangkok, Bassein, Bombay, Calcutta, Chittagong, Macao, Madras, Moulmein, Negapatam, Rangoon, Tuticorin and Vizagapatam.

2.	Ships examined including pilgrim ships and infected ships	756
3.	Outgoing pilgrim ships examined	4
4.	Returning pilgrim ships examined	Nil
5.	Infected ships examined (all small-pox)	14
6.	Ships fumigated or disinfected	91
7.	Crew examined	70,625
8.	Passengers examined including Muslim pilgrims and Chinese immigrants	204,142
9.	Outgoing pilgrims examined	1,188
10.	Revenue from charges for fumigation or disinfection of ships and from certificates issued to such ships	$5,507
11.	Corpses inspected in harbour	18
12.	Water boats inspected in harbour	36
13.	Passenger undertakings issued for surveillance ashore	109
14.	Water samples examined	4
15.	Deposits on passenger undertakings	$50
16.	Bonds of security entered into on undertakings	6
17.	Optional certificates issued to ships fumigated or disinfected	36
18.	Bills of Health issued	1,900
19.	Permits to import and export corpses issued	35
20.	Revenue from Bills of Health fees (49 free to warships)	$9,255
21.	Revenue from permits to import and export corpses	$340
22.	Charge of water supplied to passengers at Quarantine Station recovered from agents	$5,491.75
23.	Total revenue	$20,484.75
24.	Exemption certificates issued to ships	27
25.	Deratisation certificates issued to ships	63
26.	Deratisation exemption certificates issued to ships	93
27.	Rats trapped and bacteriologically examined	501

R. Decumanus	*R. Rattus*	*Others*	*Total*	*Plague infected*
128	371	2	501	Nil

28. Prosecutions:—

    Twenty-four persons were prosecuted under the Quarantine Ordinance and Rules.

ST. JOHN'S ISLAND QUARANTINE STATION

Figures for the year 1935

1.	Total passengers admitted during the year ..	20,309
2.	Greatest number admitted on any one day (26-3-35)	2,292
3.	Maximum number in residence on any one day (26-3-35)	4,508
4.	Minimum number in residence on any one day (1-3-35)	1
5.	Total sick treated in hospital, *i.e.* total admissions during the year and patients remaining in hospital on 31-12-34	106
7.	Maximum number in hospital on any one day (2-4-35)	24
8.	Minimum number in hospital on any one day (28-12-35). (*Note.*—On 64 days there were none in hospital)	1
9.	Average daily number of sick in hospital ..	3.87
10.	Total deaths during the year	4
11.	Deaths per mille in hospital	28.3
12.	Death rate per mille amongst passengers admitted	0.196
13.	Cases of cholera, plague and cerebro-spinal meningitis	Nil
14.	Total cases of smallpox admitted ..	25
15.	Number of infected ships whose passengers subsequently developed infectious disease on the Island	5
16.	Number of primary vaccinations ..	5,871
17.	Total re-vaccinations	918
18.	Cases treated as outdoor patients (contacts and staff)	778
19.	Births	7
20.	Municipal contacts admitted:— Smallpox contacts	354
21.	Government contacts admitted:— Smallpox contacts	65
22.	Number of contacts who developed infectious diseases on the Island	6
23.	Corpses sent to station for P.M. examination and burial	1
24.	Number of gallons of Singapore water transported	4,092,704
25.	Average daily number of passengers in quarantine	357.27

(B).—Penang

1. Ports of clearance on which quarantine restriction was imposed were:—

Smallpox.—Vizagapatam, Macao, Negapatam, Madras, Calcutta and Bombay.

Cholera.—Madras, Calcutta, Bangkok, Chittagong, Moulmein, Rangoon, Bassein, Tuticorin, Negapatam.

Plague.—Nil.

Cerebro-spinal Meningitis.—Nil.

2. Two infected ships arrived in Penang during the year 1935. S.S. "Kuala" arrived from Moulmein on 15th July, 1935, with a case of cholera on board.

S.S. "Ipoh" arrived on 12th April, 1935, from Singapore infected with smallpox and the patient was landed at Quarantine Station, Pulau Jerejak.

3. Other details are summarised as follows:—

1.	Passengers admitted to Quarantine Station	34,832
2.	Greatest number admitted on any one day (4-4-35)	1,603
3.	Passengers medically examined	124,001
4.	Crew medically examined	50,289
5.	Maximum number in residence on any one day (1-7-35)	1,704
6.	Minimum number in residence on any one day (Station empty for 7 days during the year)	1
7.	Sick treated in hospital	734
8.	Total deaths during the year	21
9.	Death rate among those treated	2.86
10.	Number of births	1
11.	Case of plague admitted	Nil
12.	Cases of cholera admitted	1
13.	Number of vaccinations	34,696
14.	No. of anti-cholera inoculations	—
15.	No. of out-patients treated	730
16.	No. of anthelmintic treatments	—
17.	Corpses examined in harbour	2
18.	Permits to import or export corpses	37
19.	Certificates to accompany hides	11
20.	Waterboats examined	25
21.	Revenue in stamp fees	$4,622
22.	No. of vessels entering the port (including native craft)	16,910
23.	Tonnage of these vessels	13,544,030
24.	Number of ships examined (ships infected 2)	423
25.	No. of pilgrim ships proceeding to Jeddah	4
26.	Outgoing pilgrims examined	1,625
27.	No. of pilgrim ships returning from Jeddah	5
28.	Returning pilgrims examined	2,615
29.	Infected ships proceeding to quarantine	2
30.	Fumigations and disinfections by disinfecting launch	6

31.	No. of disinfection certificate issued ..	2
32.	Passengers undertaking issued	162
33.	Bills of Health issued	767
34.	Exemptions permits issued	124

V.—MATERNITY AND CHILD WELFARE

Maternity Hospitals

There are Government maternity hospitals in Singapore and Penang. There are also maternity blocks attached to the General Hospitals at Singapore and Malacca. Maternity wards or beds are available at most of the Government district hospitals, in the St. Andrew's Mission Hospital, Singapore, and the Kwong Wai Shiu Hospital, Singapore, the latter being a charitable institution supported by the Chinese community. The Government maternity hospitals cater for all classes of the community, and the maternity services rendered by the Kandang Kerbau Maternity Hospital, Singapore, where at present all beds are free, have proved increasingly popular. This hospital recorded 3,507 deliveries in 1935.

Asiatic midwives are attached to many of the smaller district hospitals and every effort is made to induce Malay women in the rural areas to make use of the facilities provided. Progress in this direction is very slow but the response is not altogether devoid of encouragement. The midwifery service in these hospitals is rendered in close collaboration with the Infant Welfare Centres and the propaganda opportunities offered by the latter are fully exploited for persuading expectant mothers of the benefit to be derived from utilising the facilities provided at the hospitals.

The following statement shows the number of deliveries in Maternity Hospitals in the Straits Settlements in 1934 and 1935:—

		Deliveries	
		1934	*1935*
	Singapore		
1.	General Hospital	1,302	1,585
2.	Free Maternity Hospital, Kandang Kerbau	2,579	3,507
3.	St. Andrew's Mission Hospital ..	309	328
4.	Kwong Wai Shiu Hospital ..	221	279
	Penang		
5.	King Edward VII Maternity Hospital	1,480	1,768
6.	District Hospital, Province Wellesley	171*	144
	Malacca		
7.	General Hospital	202	337
8.	District Hospitals	103	152
		6,367	8,100

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* Including Lumut Hospital, Dindings

TABLE SHOWING MATERNAL MORTALITY RATE IN THE STRAITS SETTLEMENTS, 1935

(*a*).—SINGAPORE

	Total admissions	*Total delivered*	*Total maternal deaths*	*Percentage of deaths to total treated*
Maternity Ward, General Hospital	1,723	1,585	14	.80

Causes of deaths were:—

Placenta prævia	1
Puerperal septicæmia	1
Prolonged labour	2
Post-partum hæmorrhage	3
Puerperal pulmonary embolism	2
Malaria, sub-tertian	1
Cardiac failure	1
Secondary anæmia	2
Pyelitis of pregnancy	1
	14

	Total admissions	*Total delivered*	*Total maternal deaths*	*Percentage of deaths to total treated*
Maternity Hospital, Kandang Kerbau	3,862	3,507	44	1.14

Causes of deaths were:—

Acute sub-tertian malaria	6
Beri-beri and secondary anæmia	1
Malaria and beri-beri	2
Acute beri-beri	7
Cerebral malaria	2
Placenta prævia	3
Placenta prævia and beri-beri	1
Toxic accidental hæmorrhage	5
Myocarditis	1
Anæmia of pregnancy	2
Lobar pneumonia	1
Myocarditis and cardiac failure	1
Post-partum hæmorrhage and shock	1
Acute cardiac dilatation	1
Sub-acute nephritis and myocarditis	1
Ruptured uterus and general peritonitis	1
Post-partum hæmorrhage	1
Puerperal septicæmia	3
Puerperal sepsis	1
Shock and cardiac failure	1
Cerebral hæmorrhage	1
Anæmia of pregnancy and cardiac failure	1
	44

(*b*).—PENANG AND PROVINCE WELLESLEY

	Total admissions	*Total delivered*	*Total maternal deaths*	*Percentage of deaths to total treated*
King Edward VII Maternity Hospital ..	1,991	1,768	19	.94
Butterworth Hospital ..	56	48	4	7.14
Bukit Mertajam Hospital	52	52	—	—
Sungei Bakap Hospital	52	44	3	5.77

Causes of death were:—

(i) *Maternity Hospital*—

Cardiac failure	1
Anæmia of pregnancy	2
Revealed accidental hæmorrhage ..	1
Albuminuria of pregnancy and toxæmia ..	4
Eclampsia	3
Placenta prævia	2
Puerperal sepsis	1
Puerperal embolism	1
Post-partum hæmorrhage	1
Obstructed labour, shock	1
Beri-beri	2
	19

(ii) *Butterworth Hospital*—

Puerperal septicæmia	3
Hyperemesis gravidarum	1
	4

(iii) *Sungei Bakap Hospital*—

Puerperal septicæmia	2
Uterine inertia	1
	3

(*c*).—MALACCA

	Total admissions	*Total delivered*	*Total maternal deaths*	*Percentage of deaths to total treated*
General Hospital ..	402	337	18	4.48
Alor Gajah Hospital ..	88	57	—	—
Jasin Hospital ..	96	95	1	.95

Causes of death were:—

(*a*) *General Hospital*—

Placenta prævia	2
Retained placenta and membranes and incomplete miscarriage with puerperal septicæmia	2
Eclampsia	1
Carried forward	5

Brought forward	5
Abnormal labour	2
Myxoma chorii	1
Secondary anæmia	6
Nephritis	2
Shock and hæmorrhage following craniotomy	1
Cæsarian section	1
	18

(*b*) *Jasin Hospital*—

Heart failure from prolonged labour ..	1
	1

Training and Work of Midwives

Regular courses of training for nurses and Asiatic midwives are provided at the Government Maternity Hospitals in Singapore, Penang and Malacca. In addition, a number of nurses and midwives are trained at the St. Andrew's Mission Hospital, Singapore.

Under the Midwives Ordinance, midwives are divided into three classes, *viz:*—

Class A—midwives with sufficient education in English to undergo 12 months theoretical and practical training followed by an examination, of a standard similar to that required by the C.M.B., which entitles successful candidates to a diploma.

Class B—Asiatic midwives of a lower standard of education who have undergone practical training, given in the Malay language and by demonstration, for six or nine months, followed by an oral and practical examination.

Class C—midwives, who were in regular practice as midwives for a period of one year before the date of introduction of the Midwives Ordinance. The number of midwives in this class is steadily diminishing and their places are being taken by Class *B* midwives.

Every endeavour is made to induce Malay women from the villages to enter for the course of training framed for Class *B* midwives with a view to practising orthodox midwifery on their return to the villages. It is hoped in this way gradually to displace the large number of unqualified Malay and other Asiatic midwives now practising objectionable and injurious methods of primitive midwifery in rural areas.

The number of registered midwives in the Colony in 1935 was:—

	Singapore	*Penang*	*Malacca*
Class *A*	204	81	21
Class *B*	429	320	38
Class *C*	31	156	171
	664	557	230

Infant and Child Welfare Services

These services are conducted by the Municipalities in the towns of Singapore, Penang and Malacca, by the Singapore Child Welfare Society in Singapore and by the Government Medical Department in the rural areas of each Settlement.

(*A*).—IN MUNICIPALITIES

Infants up to the age of 12 months are attended at the three Singapore Municipal Clinics. During the year 16,015 new infants were placed on the registers of the infant welfare clinics. This figure represents 80 per cent. of the total births in the city.

The total number of attendances was 40,528 as compared with 42,247 in the previous year.

The Health Sister and Staff Nurses paid a total of 24,771 visits to homes, of these 17,144 were first visits to newly born babies.

The Penang Municipality employs two European Health Sisters.

In Malacca two Assistant Health Visitors are employed under the supervision of a Health Sister who is the Government Health Sister but is also employed part time by the Municipality.

(*B*).—THE SINGAPORE CHILD WELFARE SOCIETY

This Society is supported by subscriptions and donations and by Government and Municipal grants. The Society supports two clinics and two crêches. Children of between one and five years of age are treated at the clinics.

The Municipal clinic, which treats babies up to the age of 12 months, passes over to the care of the Society children over one year old who require attention. All children needing treatment which cannot be given at the clinics are sent to hospital, the majority being sent to St. Andrew's Mission Hospital.

Owing to lack of funds, the Society was obliged to dispense with the services of one of the two European Matrons in November. Both centres are now supervised by a Matron, with the help of four locally trained Chinese nurses. A new crêche was opened in April, 1935, at New Market Road.

Number of attendances for the year:—

	Clinic	*Crêche*	*Families visited*
Victoria Street (formerly at Minto Road)	26,158	10,108	15,906
New Market Road (formerly at Teluk Ayer Street) ..	23,918	3,369	20,578
	50,076	13,477	36,484

To bring expenditure within the Society's means, it was unfortunately found necessary towards the end of the year, to stop house to house visiting. In the case of the absence of children usually attending the crêches, however, visits are still paid to their homes.

(*C*).—GOVERNMENT INFANT WELFARE CENTRES

The number of centres has further increased and the following centres are now actively engaged in providing infant welfare services in rural areas:—

Singapore	5 centres and 2 sub-centres.
Penang	4 centres and 2 sub-centres.
Province Wellesley ..	4 centres and 1 sub-centre.
Malacca	7 centres.

Government has under consideration the provision of more Infant Welfare Centres.

The centres are in charge of Rural Public Health Sisters recruited from England of whom there are—1 Matron and 1 Sister in Singapore, 1 Sister in Penang, 1 Sister in Province Wellesley and 1 Sister in Malacca. In addition, there are at most of the centres a resident Health Nurse, a midwife and a female attendant. The routine duties of the Health Sisters and Nurses are primarily educational and preventive. They advise mothers on the care and feeding of infants and young children and also give ante-natal attention and detect abnormalities requiring medical treatment. They visit houses from which births have been reported and advise. The Health Sister keeps a register of local midwives (bidans). She inspects the record of the births they have attended and instructs them in the elements of midwifery. She provides them with dressings and disinfectants and teaches them a reasonable standard of technique, which was formerly lacking. In many cases dirty scissors, pocket knives and pieces of bamboo, used for cutting the umbilical cord, have been replaced by properly cleaned surgical scissors. The Health Sister gives simple remedies for minor ailments with a view, principally, to gaining the confidence of the public and relieving immediate distress. Cases of illness are referred to the nearest Government dispensary whenever possible. It has been found that the majority of Asiatic children are victims of ill-feeding and are more in need of advice than of treatment. A small museum is kept at each centre containing confiscated articles such as the midwives tools just mentioned, long-tube feeders, comforters, unsuitable clothing and dressing material, and these are used as a warning lesson to mothers.

(*D*).—COMBINED RETURN SHEWING VISITS PAID TO HOMES AND ATTENDANCES AT WELFARE CLINICS

	Visits to Homes		*Attendances at Clinics*	
Municipalities—				
Singapore	148,487		40,528	
Penang	61,342		—	
Malacca	30,515		5,220	
		240,344		45,748
Singapore Child Welfare Society		36,484		50,076
Government—				
Singapore	59,527		74,688	
Penang	50,636		22,861	
Province Wellesley ..	61,057		36,017	
Malacca	31,821		15,745	
		203,041		149,311
Grand Total ..		479,869		245,135

Associated Activities

In addition to the Infant Welfare Centres described above, there are a number of women's and children's dispensaries conducted by Government in the large towns. Each of these dispensaries is in charge of a Lady Medical Officer. They are utilised chiefly by sick mothers and children and are available for the treatment of infants attending the Infant Welfare Centres.

The returns from these dispensaries for 1935 were as follows:—

	New patients	*Repetitions*	*Total*	*Total No. of children amongst the new patients*
Women's and Children's Dispensaries, Singapore—				
(*a*) Kandang Kerbau ..	16,134	29,270	45,404	9,411
(*b*) General Hospital Outdoor Dispensary	7,558	13,756	21,314	3,295
Women's and Children's Dispensary, Penang ..	7,630	14,098	21,728	4,334
Women's and Children's Dispensary, Malacca ..	8,632	5,084	13,716	4,250
St. Andrew's Mission Dispensary, Singapore ..	5,144	18,209	23,353	549
	45,098	80,417	125,515	21,839

VI.—HOSPITALS, DISPENSARIES AND SPECIAL CLINICS

(1).—Hospital In-Patients

The following table shows the hospitals maintained by the Medical Department, the average daily number of patients in each, the total number of patients admitted during the year, the total number of deaths and the death-rate per hundred treated:—

(Leper Settlements are not Included)

Hospitals	Average daily number of patients	Patients treated			Deaths	Percentage of deaths to total treated
		Male	Female	Total		
I.—SINGAPORE						
General Hospital ..	716·51	13,940	7,499	21,439	2,148	10·02
Tan Tock Seng Hospital ..	805·82	11,774	103	11,877	1,150	9·68
Free Maternity Hospital ..	61·43	..	~~7,658~~ 3862	~~7,658~~ 3862	~~223~~ 44	~~2·91~~ 1.14
St. John's Island Quarantine Hospital ..	3·87	78	28	106	3	2·83
Police Hospital	15·90	1,062	..	1,062	..	..
Mental Hospital ..	1,420·34	1,402	592	1,994	199	9·98
Prison Hospital ..	24·38	952	..	952	9	·94
II.—PENANG						
General Hospital ..	474·54	7,950	1,803	9,753	979	10·03
Maternity Hospital ..	43·85	..	2,025	2,025	19	·94
Prison Hospital ..	8·29	127	..	127	3	2·36
Balik Pulau Hospital ..	17·10	255	2	257	2	·77
Butterworth District Hospital	81·22	1,792	417	2,209	138	6·24

HOSPITAL IN-PATIENTS—*continued*

Hospitals	Average daily number of patients	PATIENTS TREATED Male	Female	Total	Deaths	Percentage of deaths to total treated
II.—PENANG—*continued*						
Bukit Mertajam District Hospital	106·00	1,848	461	2,309	132	5·71
Sungei Bakap	123·92	2,714	856	3,570	185	5·18
Pulau Jerejak Quarantine Hospital	3·27	557	177	734	21	2·86
III.—MALACCA						
General Hospital ..	367·62	5,262	1,941	7,203	540	7·50
Jasin District Hospital ..	83·48	1,078	370	1,448	111	7·67
Alor Gajah District Hospital	35·19	788	372	1,160	70	6·03
Prison Hospital	1·99	62	..	62	..	..
IV.—LABUAN						
District Hospital ..	10·00	146	6	152	7	4·60

PREVAILING DISEASES AMONG HOSPITAL PATIENTS

Diseases	*Admission*	*Deaths*	*Mortality*
Malaria, acute	12,996	456	3.51
Malaria, chronic	433	38	8.77
Influenza	1,447	16	1.10
Chest Affections—			
Bronchitis	1,340	21	1.57
Pneumonia and broncho pneumonia	1,672	934	55.86
Pulmonary tuberculosis ..	2,755	1,007	36.55
Intestinal Affections—			
Dysentery	857	217	25.32
Diarrhœa and enteritis ..	1,689	351	20.78
Other Affections—			
Helminthic diseases	2,845	42	1.47
Beri-beri	1,174	283	24.10
Anæmia	303	43	14.19
Surgical Conditions—			
Chronic ulcers	1,940	8	.41
Wounds, fractures, etc. ..	3,920	122	3.11
Abscesses, etc.	1,774	50	2.81
Venereal Diseases—			
Syphilis—late manifestations ..	284	93	32.74
Syphilis—hereditary	161	90	55.90
Syphilis—other manifestations ..	1,502	17	1.13
Other venereal diseases ..	1,322	5	.37

The total number of in-patients admitted during 1935 was 74,262 with 6,075 deaths as against 55,768 with 5,250 deaths in 1934.

NOTES ON PREVAILING DISEASES AMONG HOSPITAL PATIENTS

(i) *Malaria.*—There was a marked increase in the number of classified cases of acute malaria admitted to Government hospitals. The total number was 10,599 compared with 4,327 in 1934.

The increase in the number of admissions to hospital for malaria is due to the increased incidence of the disease throughout the country following upon the introduction of a large labour force of non-immunes.

In Singapore the admissions to hospital rose as the result of an outbreak of malaria due to the breeding of *A. sundaicus.* This outbreak, which was much exaggerated in the press, quickly came to an end as soon as the Municipal Commissioners recognised the advisability of adopting the necessary measures.

The writer of this report can safely predict a marked improvement in the incidence of malaria for the coming year. Figures to hand at the time of writing, which coincides with the end of the malaria season, prove this.

The following table shows the number of admissions to Government hospitals of verified cases of acute malaria for the last six years:—

Year	*Total admissions of acute cases of classified malaria*
1930	9,921
1931	3,844
1932	3,684
1933	3,861
1934	4,327
1935	10,599

The predominating type was subtertian infection, as shown in the following table, the diagnosis in all cases being confirmed by microscopical identification:—

	Cases	*Percentage*
Subtertian infection	6,681	63.03
Tertian ,,	3,387	31.96
Quartan ,,	191	1.80
Mixed ,,	340	3.21

Three cases of blackwater fever were recorded, one of which proved fatal.

The following terminal causes of death were noted in 386 fatal malarial cases:—

TERMINAL CAUSES OF DEATH IN MALARIA

——	Singapore General Hospital	Singapore Tan Tock Seng Hospital	Penang Hospitals	Malacca Hospitals	Total
Cardiac failure and cardiac Complication	29	..	67	10	106
Cerebral malaria: coma: convulsions	49	3	5	18	75
Cachexia	..	..	19	21	40
Algid type of malaria	25	..	..	..	25
Failure of liver function	4	10	..	..	14
Hyperpyrexia	1	2	2	..	5
Blackwater fever	1	..	..	..	1
Carried forward	109	15	93	49	266

TERMINAL CAUSES OF DEATH IN MALARIA—*continued*

—	Singapore General Hospital	Singapore Tan Tock Seng Hospital	Penang Hospitals	Malacca Hospitals	Total
Brought forward ..	109	15	93	49	266
Malaria with pneumonia or other pulmonary complications	13	8	..	8	29
Malaria with nephritis or other renal complications ..	5	3	1	13	22
Malaria with ankylostomiasis	..	9	..	13	22
Malaria with beri-beri or polyneuritis	5	8	..	5	18
Malaria with dysentery or enteritis	4	5	4	1	14
Malaria with secondary anæmia	13	..	..	..	13
Malaria with cirrhosis of the liver	1	..	..	..	1
Malaria with septicæmia ..	1	..	..	..	1
Total ..	151	48	98	89	386

(ii) *Venereal Disease.*—There were 1,702 admissions for syphilis and 748 for gonorrhœa. Only 254 of the cases of syphilis were in the primary stage. The great majority of cases of venereal disease are treated at the social hygiene clinics. Many of the cases treated in hospital are referred by the clinics or are admitted for diseases which are super-imposed on the venereal disease.

In accordance with the agreement respecting facilities to be given to merchant seamen for the treatment of venereal diseases, special provision is made in the General Hospitals of the Colony for the seamen of all nationalities who are suffering from venereal diseases.

(iii) *Pneumonia.*—One thousand six hundred and fifty-four cases of lobar pneumonia and broncho-pneumonia were admitted to Government hospitals. Of these 929 were fatal, giving the high mortality of 56.16 per cent. This is no improvement on the mortality for the previous year which was 56.19.

(iv) *Pulmonary Tuberculosis.*—The number of admission to Government hospitals for pulmonary tuberculosis was 2,447 compared with 2,303 in the previous year. The number of deaths was 868 giving a case mortality of 35.47 per cent. Facilities for modern medical and special treatment of pulmonary tuberculosis exist in the General Hospitals of the Colony and special tuberculosis wards are available. One of the chief obstacles to the satisfactory treatment of tuberculosis is found to be the difficulty of bringing the poorer class of patients under treatment at a sufficiently early stage of the disease for treatment to be effective. Many labourers show great reluctance to enter an institution until they are too feeble to continue in employment. This reluctance is forced upon them by the necessary in most cases of providing for the daily needs of their families. For this reason, it is our unfortunate experience that nearly all the patients admitted to hospital are found to be in an advanced and hopeless stage of the disease and the mortality is consequently regrettably high.

(v) *Dysentery.*—The number of admissions recorded as due to dysentery was 857 compared with 690 admissions in 1934. Two hundred and ninety-five of the total cases were classified as amœbic and 480 as bacillary. The mortality for bacillary dysentery was 26.87 per cent. and for amœbic dysentery 26.77 per cent.

(vi) *Beri-beri.*—There were 1,174 admissions for beri-beri during the year compared with 1,196 in 1934. The rise and fall in the number of beri-beri cases admitted to hospitals during the past few years, as shewn in the accompanying table, has borne a close relation to the level of general prosperity. It is probable that the enforced consumption of home grown produce during times of economic stress ousts the more expensive highly polished rice with resulting benefit to health.

Year	*Admissions for beri-beri*
1929	1,322
1930	1,449
1931	1,237
1932	991
1933	888
1934	1,196
1935	1,174

(vii) *Anaemia.*—Three hundred and three admissions were recorded as due to anæmia compared with 283 in 1934. Of these, 229 were returned as secondary anæmia and many such cases were associated with malaria, syphilis, ankylostomiasis and other debilitating conditions. One case of chlorosis was admitted during the year.

(viii) *Chronic Ulcer.*—The number of cases of chronic ulcer admitted was 1,940 compared with 1,378 in 1934. A large number of chronic ulcers have been treated by the application of adhesive strapping with successful results.

(ix) *Wounds, Fractures, etc.*—It is a matter of current interest to place on record that of 3,920 admissions for affections produced by external causes, 745 were for injuries caused by motor vehicles, and of these 53 were fatal.

NOTES ON OTHER DISEASES

(i) *Leprosy.*—Four hundred and three cases of leprosy were admitted during the year to leper settlements at Singapore and Penang. The number so admitted in 1934 was 422. The figure stated is the net number of admissions. Transfers from one institution to another have been deducted.

Intensive treatment on modern lines was continued throughout the year of which full details will be found in Section VII (*B*), on page 61. All cases found in the medical institutions at Penang with suspicious skin lesions were examined by the Acting Senior Deputy Medical Officer, Pulau Jerejak Settlement, and by this means several early bacteriologically negative cases of leprosy were discovered which would probably have been overlooked otherwise.

(ii) *Tropical Typhus.*—There were 37 admissions for tropical typhus. Only 1 patient died. This disease is less prevalent in the Colony than in the Federated Malay States.

(iii) *Japanese River Fever.*—No case of Japanese River Fever occurred.

(iv) *Cancer.*—The number of patients admitted to Government hospitals and recorded as suffering from malignant tumours was 535 of whom 187 died.

COST OF DIETS

The approximate daily cost of diets per head in the General Hospital, Singapore, for the year 1935 was:—

Scale	First Class	Second Class	THIRD CLASS									
			$1 Grade					50 cents Grade				
			Chinese	Moslem	Tamil	Bengalee Hindu	Sikh	Chinese	Moslem	Tamil	Bengalee Hindu	Sikh
	$ c.	$ c.	c.	c.	c.	c.	c.	c.	c	c.	c.	c.
A	1 29	0 96	26	29	29	..	..	18	23	23	22	28
A1	..	0 98	..	..	..	..	..	..	..	..	..	..
A2	..	0 98	..	..	..	..	..	..	..	..	..	..
B	1 36	0 96	38	38	38	..	..	15	15	15	..	..
C	0 95	0 90	..	..	..	..	..	08	08	08	12	12
Special												
A. Tuberculosis ..	..	..	35	35	35	22	28	..	..	..	..	..
B. Tuberculosis ..	..	..	55	55	55	..	..	...	..	..	..	..

(2).—Out-Patients

The number of out-patients treated during the year was 311,149. This number comprises all those treated at Government hospitals and dispensaries, as well as patients visited in their own homes. It does not include those treated at Infant Welfare Centres, or at school inspections; nor does it include attendances at special clinics, such as social hygiene and dental clinics, all of which are recorded separately.

Out-patients are classified under three headings:—

	Out-patients	*Attendances*
(I) At Hospitals—		
(*a*) Singapore	33,651	57,527
(*b*) Penang*	44,503	84,193
(*c*) Malacca	12,105	25,242
(*d*) Labuan	1,804	3,600
(II) At Dispensaries—		
(*a*) Singapore	37,608	77,204
(*b*) Penang*	76,238	173,493
(*c*) Malacca	15,790	28,163
Carried forward ..	221,699	449,422

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* Penang includes Province Wellesley

Brought forward	..	221,699	449,422
(III) At Travelling Dispensaries—			
(*a*) Singapore ..	..	14,455	17,709
(*b*) Penang* ..	..	43,109	52,771
(*c*) Malacca ..	..	28,018	41,018
(*d*) Labuan ..	..	3,868	3,603
Total	..	311,149	564,523

The number of out-patients treated for yaws was 8,222 as compared with 6,477 in 1934. Malays suffering from this disease have come forward voluntarily in greater numbers to accept treatment.

The attendances at the Women's and Children's Dispensary, Kandang Kerbau, Singapore, numbered 45,404 as compared with 39,218 in 1934.

In the Women's and Children's Dispensary, Penang, the attendances were 21,728 compared with 19,128 in the previous year.

The total number of attendances at the Women's and Children's Dispensary, Malacca, was 13,716. Of 8,632 new patients who received treatment 4,259 were children. This clinic has now been separated into two distinct units—a women's and children's dispensary and an infant welfare centre.

(3).—Report on the Pathological Branch, Straits Settlements, 1935

I.—SINGAPORE

(*A*).—PATHOLOGICAL DIVISION

The total number of specimens examined during the year was 9,937, an increase of 912 over the 1934 figures. These specimens included 917 pieces of tissues submitted for histological examination and report, and 9,015 sera submitted for complement fixation and Kahn tests. These sera were received from the following institutions mainly:—

Tan Tock Seng Hospital	3,244
The General Hospital	2,474
Police Department	775
Anti-Opium Clinic	1,103
Mental Hospital	617
Leper Settlement	78

Both the Wassermann reaction and the Kahn test were carried out on all sera. An agreement between the tests was present in 6,687 sera, or 80.1 per cent.

The mounting and describing of pathological specimens for teaching purposes has been continued throughout the year, and pathological specimens have been provided for the Pathological Museum at the College of Medicine.

The teaching of general, special and clinical pathology and medical jurisprudence to students of the King Edward VII College of Medicine has been carried on throughout the year at Tan Tock Seng Hospital, the Pathological Laboratory, and the College of Medicine.

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* Penang includes Province Wellesley

The total number of autopsies performed during the year was 1,786. There were 1,331 at Tan Tock Seng Hospital and 455 at the Central Mortuary, General Hospital. Of these 1,786 autopsies 636 were performed for His Majesty's Coroner.

(*a*) *Tan Tock Seng Hospital.*—Total number of autopsies 1,331. Number performed on patients dying within:—

(1)	Twenty-four hours of admission	97
(2)	Forty-eight hours of admission	34

(*b*) *Central Mortuary.*—As most of the autopsies performed were on Coroner's cases with a very meagre history available, the duration of illness was not available in most cases.

Main causes of death, exclusive of Coroner's cases, as ascertained on autopsy at Tan Tock Seng Hospital:—

Month	Number of autopsies	Malaria	Pulmonary tuberculosis	Lobar pneumonia	Dysentery	Beri-beri	Typhoid	Syphilis	Others	Coroner's cases
January	97	3	15	7	3	6	1	9	31	22
February	95	7	25	8	4	5	...	2	27	17
March	83	7	19	5	2	5	..	4	20	21
April	121	19	19	4	6	11	..	4	29	29
May	119	24	22	12	4	2	4	6	26	19
June	115	17	31	7	5	1	1	2	27	24
July	121	8	26	8	5	7	2	3	31	31
August	106	10	23	2	8	3	3	3	24	30
September	101	8	23	5	4	2	2	5	25	27
October	113	10	28	4	8	8	1	4	22	28
November	123	18	21	6	11	5	4	6	34	18
December	137	14	27	14	7	9	3	6	35	22
Total ..	1,331	145	279	82	67	64	21	54	331	288

Main causes of death in 1935 as compared with 1934, as ascertained on autopsy at Tan Tock Seng Hospital:—

——	Number of autopsies	Malaria	Pulmonary tuberculosis	Lobar pneumonia	Dysentery	Beri-beri	Typhoid fever	Syphilis
1934	1,200	59 or 4.2%	287 or 23.92%	46 or 3.8%	37 or 3.1%	76 or 6.3%	6 or .5%	72 or 6%
1935	1331	145 or 10.9%	279 or 21%	82 or 6.2%	67 or 5%	64 or 4.8%	21 or 1.6%	54 or 4.1%

Staff.—From March 15th to August 2nd Dr. J. A. COWAN, Government Pathologist, Penang, was in charge of this Branch, while Dr. J. C. TULL, F.R.C.P., was acting Principal of the College of Medicine.

From October 31st to December 6th Dr. C. SUBRAHMANYAM was in charge, while Dr. J. C. TULL, F.R.C.P., proceeded to the United Kingdom on urgent leave.

Dr. C. SUBRAHMANYAM acted as Bacteriologist, Singapore, throughout the year, with the exception of the period 31st October to 6th December, when Dr. C. H. CHEE acted for him.

Publications.—Notes on the use of the formolized gelatine method of mounting flat specimens in frames in the tropics, by Dr. J. C. TULL, Journal of technical methods and bulletin of the International Association of Medical Museums, 1935, XIV, 28–32.

II.—PENANG

This laboratory was responsible for making all pathological, bacteriological, and serological examinations required for the hospitals, dispensaries and clinics in Penang and Province Wellesley. Periodical examinations of water samples were also made for the Health Authorities and Public Works Department, and medico-legal investigations were carried out for the Police department and His Majesty's Coroner.

The technical staff consisted of 1 pathologist, 1 assistant pathologist, and 2 technicians.

The laboratory buildings are well designed and adapted for their purpose, and the equipment is modern and sufficient. The financial provision made for the laboratory's routine requirements was ample, and this year a special additional vote of $1,600 was devoted to the renewal of obsolescent major apparatus.

The activities of the laboratory were well maintained during the past year, and the figures for the year's work are appended.

Morbid Anatomy and Histology.—The number of autopsies on hospital patients was small owing to the difficulty of obtaining the relatives' consent. The histological work consisted mainly of the examination of biopsy specimens for the surgical staff, the supply of material from autopsies being limited.

From the records of autopsies performed for His Majesty's Coroner, it is interesting to note the local popularity of caustic soda as a means of suicide, despite its very painful mode of action. This was the agent employed in no less than six cases out of a total number of eleven cases of suicide by poisoning. A possible explanation is that caustic soda is an article of common household use, and is cheap and easily obtained. One case of accidental poisoning by this substance was also noted.

Clinical Pathology and Bacteriology.—The number of blood films examined was small, as this work is usually performed in the clinical laboratories, and only doubtful cases are referred to this laboratory.

No case of primary blood culture positive to *Bact. typhosum* was noted during the year. This is probably accounted for by the fact that patients are rarely seen before the disease is advanced. The method of clot culture for typhoid gave satisfactory results.

The number of stool examinations showing infestation with *E. histolytica* was small: proved cases of dysentery from this cause are rare in Penang. Most proved cases of bacillary dysentery were again shown to be due to infection with Flexner's organism: only one case of true Shiga infection being detected.

Isolated diphtheria bacilli were examined for classification purposes. No case of a "gravis" infection was found, the majority of cases being "mitis", with an occasional intermediate form.

With regard to serological tests for syphilis, the methods employed were a modification of Wyler's complement fixation technique, and the standard Kahn flocculation tests. The results obtained showed a close agreement, over 90 per cent. of cases giving identical results. The Kahn test was again shown to be slightly the more sensitive.

Dr. J. A. Cowan has been in charge of the laboratory since his return from long leave and duty in Singapore, on August 3rd, 1935. Prior to that date Dr. H. O. Hopkins was in charge of the Laboratory.

III.—MALACCA

The total number of examinations during the year was 32,062 as against 21,931 in 1934, an increase of 10,131 specimens examined. This increase was distributed generally throughout the year with, however, a decided peak in May when the number of blood films examined was almost double the average monthly figures with a corresponding increase in the malarial findings.

Summary of Work Done in the Pathological Branch

	Singapore	*Penang*	*Malacca*
Autopsies	1,786	210	71
Tissues for histological examination	917	125	53
Sera for complement fixation (Wassermann) and Kahn tests	9,015	7,878	4,133
Blood: Agglutination reactions Widal	1,204	209	317
„ „ „ Weil Felix	1,209	23	53
Cultures from Widal clots	1,204	204	—
Cultures from blood. Typhoid group	130	—	60
„ „ „ Other organisms	135	103	—
„ Ophthalmic	71	—	—
„ Dental	19	—	—
„ from fæces	1,100	438	56
„ from urine	544	55	99
„ from cerebro-spinal fluids	75	61	31
„ from other specimens	292	105	24
„ from throat and nasal swabs for diphtheria	304	215	222
Virulence tests for diphtheria	46	—	—
*Smears—examination for organisms	191	2,062	2,667
*Urine—microscopic and chemical examinations	18	464	6,638
*Fæces—microscopic examinations	—	739	9,139
Vaccines. Autogenous	85	20	9
Animal inoculation for tuberculosis	9	16	8
Medico-legal exhibits	not reported	78	33
*Blood films for malaria	—	24	6,489
*Blood counts	—	1,227	199
*Biochemicals examinations	—	102	276
Water samples—bacteriological	—	123	63
Miscellaneous examinations	496	1,098	107

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* *Note.*—In Singapore and Penang these examinations are also carried out in the clinical laboratories in the hospitals.

(4).—Surgery

The total number of operations performed in the hospitals of the Colony was 12,265 with 207 deaths.

The number of operations performed in the large hospitals was as follows:—

	Total No. of operations	*Deaths*
General Hospital, Singapore	4,291	90
Tan Tock Seng Hospital, Singapore	2,556	42
General Hospital, Penang	1,044	28
General Hospital, Malacca	1,043	14

There are special departments at the General Hospital, Singapore, for the treatment of diseases of the eye and for diseases of the ear, nose and throat.

The number of operations performed in these departments was:—

General Hospital, Singapore	*No. of operations*
Eye Department	297
Ear, nose and throat	543

Three hundred and fifty-two gynæcological operations were performed at the General Hospital, Singapore, with 4 deaths.

(5).—Radiology

Modern radiological equipment is available at the following hospitals:—

General Hospital, Singapore.
Tan Tock Seng Hospital, Singapore.
General Hospital, Penang.
General Hospital, Malacca.

The unit at the General Hospital, Malacca, was in operation from the 16th September, 1935.

X-Ray Diagnosis.—The number of radiograms taken at each of the hospitals during the year was as follows:—

	Radiograms	
	1934	*1935*
General Hospital, Singapore	11,275	11,081
Tan Tock Seng Hospital, Singapore	4,122	5,086
General Hospital, Penang	1,018	917
General Hospital, Malacca	—	118

A total of 1,355 cases were subjected to fluoroscopic examination. As in previous years students from the King Edward VII College of Medicine brought up their clinical cases for radiological examination and they were given demonstrations in X-ray work.

X-Ray Therapy.—The deep therapy apparatus which was installed at the General Hospital, Singapore, during the previous year was made use of in the treatment of suitable cases. Seventy-seven cases were treated by X-rays or Radium.

Electric Therapy and Diathermy.—At Tan Tock Seng Hospital 60 cases were treated. Artificial fever therapy was tried on 27 cases. The peripheral neuritis cases responded very well to this treatment and a series of cases are now being treated to confirm the value of artificial fever treatment for peripheral neuritis.

Other Physical Therapy.—One hundred and sixty-five cases at the General Hospital were treated by various methods as follows:—

Diathermy	52 cases
Galvanism	4 ,,
Faradism	18 ,,
Ionisation	10 ,,
Ultra-violet lamp	32 ,,
K. B. lamp	4 ,,
Radiant heat	22 ,,
Massage	23 ,,

(6).—Ophthalmology

In Singapore, the ophthalmic specialist has charge of a well equipped department. The work in this department is increasing rapidly and is likely to continue to do so for some time. In 1935 there were 1,745 new out-patients and the total number of attendances was 6,753 compared with 1,334 attendances in 1934. The number of operations performed was 297 compared with 344 in 1934.

There is also an eye department attached to the General Hospital, Penang, which is attended by a Medical Officer with special experience in ophthalmology. The number of attendances at the eye department of the General Hospital, Penang, in 1935 was 1,882. Ninety-seven operations were performed.

(7).—Social Hygiene

There are three venereal diseases clinics for males in Singapore and two in Penang. In addition facilities exist for the treatment of venereal diseases at all hospitals and out-door dispensaries and special sessions for women are held at the women's and children's dispensaries in Singapore and Penang.

The number of new cases presenting themselves for treatment shows a decrease during the past five years.

Year	*New cases*
1931	28,805
1932	27,746
1933	23,256
1934	21,432
1935	20,341

The decrease in the number of new cases of venereal diseases has been progressive since the policy of closing the known brothels has been pursued, but it would be unwise to make the deduction that the closing of the brothels is responsible for a decrease in attendances.

The figures given below represent attendance at Government clinics only. There are no statistics to show the number of cases attending private practitioners. Attention is drawn to the fact that attendances by women are small. It is known that prostitutes do not now attend the clinics as they used to.

Nationality of those attending the clinics:—

Europeans	517
Chinese	11,078
Indians	5,983
Malays	2,182
Others	581
Total	20,341

Treatment of Seamen.—A modern well-equipped clinic exists at Nelson Road, conveniently close to Tanjong Pagar docks, for men of the Mercantile Marine. It conforms to the International Agreement by treating seamen of all nationalities free, and providing them with the necessary therapeutic agents to enable them to continue treatment until their arrival at the next port of call.

The number of seamen of each nationality treated during 1935 was:—

British	214
Other Europeans	108
Chinese	471
Malays	13
Indians	61
Others	48
Total	915

Serological Examinations.—Sixteen thousand five hundred and fifty-seven blood tests were carried out.

Treatment Administered.—The following is an analysis of treatment given:—

(*a*) *Intravenous Injections*—	
N.A.B.	24,783
Collosal iodine	1,615
Neosilbersalvarsan	2,559
Trypaflavine	431
Thiostab	205
Dmelcos	836
Acriflavine	2,590
Arthigon	441
Novarson	31
Sodium thiosulphate	45
Solusalvarsan	26
Calciostab	10
Calcium chloride	165
Tryparsomide	116
(*b*) *Intramuscular Injections*—	
Bismuth	19,661
Contramine	1,107
Manganese butyrate	646

Collosal manganese	446
Trimine	114
Aolan	2
Sulfarsenol	733
Stabismol	266
Metarsenobillon	1,083
Sulphostab	934
Sulfarsphenamin	1
(*c*) *Hypodermic*—	
Vaccine gonococcus	23,126
Thiostab	46
Aolan (intradermal)	8
Adrenaline	14
Miscellaneous—	
Dressings	90,803
Irrigations	81,795
Prostatic massage	3,774
Minor operations	721
Dilations	1,032
Urethroscope examinations	22
Microscopic examinations—	
Gonococci	+ 5,334
	− 3,995
Dark ground illumination films	+ 637
	− 2,632
Cerebro-spinal fluid W.R.	+ 7
	− 6

Propaganda.—Pamphlets and leaflets are freely distributed, and applications from out-stations are promptly attended to. Large posters in Chinese, Malay and Tamil are posted in the thickly populated areas. These posters emphasize the dangers of venereal diseases, direct sufferers to the clinics, and make known the facilities for free treatment available there.

(8).—Hospitals for Women

The following are hospitals maintained for women:—

Free Maternity Hospital, Kandang Kerbau	94 beds
King Edward VII Memorial Maternity Hospital, Penang	45 ,,
Mandalay Hospital (attached to Tan Tock Seng Hospital), Singapore	60 ,,

The two former hospitals are utilised for the training of nurses and midwives. The last named is maintained for the treatment of pauper women.

VII.—INSTITUTIONS FOR MENTAL DISEASES AND FOR LEPROSY

(A).—Mental Hospital

MENTAL HOSPITAL, SINGAPORE

The number of patients under treatment at the end of the year was 1,397, the same number as at the end of 1934.

ADMISSIONS

Males		*Females*		*Total*	
1935	*1934*	*1935*	*1934*	*1935*	*1934*
406	296	191	127	597	423

Total number treated was 1,994, compared with 1,782 in 1934.

DISCHARGES

	Males		*Females*		*Total*	
	1935	*1934*	*1935*	*1934*	*1935*	*1934*
Recovered	165	112	74	34	239	146
Relieved	113	31	21	18	134	49
Not improved (discharged to the care of relations or friends) ..	10	8	4	10	14	18
Not insane on admission ..	7	8	—	2	7	10
Total discharged ..	295	159	99	64	394	223

DEATHS

Males		*Females*		*Total*	
1935	*1934*	*1935*	*1934*	*1935*	*1934*
154	119	45	34	199	153

ABSCONDED

Males		*Females*		*Total*	
1935	*1934*	*1935*	*1934*	*1935*	*1934*
4	9	—	—	4	9

The recovery rate for the year was 40.03 per cent. of the admissions.

There remained on 31st December, 949 males and 448 females. The daily average number of patients was 979 males and 424 females. The maximum and minimum numbers respectively were 1,432 and 1,381.

The nationalities of the admissions were:—

	Males		*Females*	
	1935	*1934*	*1935*	*1934*
British	5	6	2	4
Eurasian	6	—	4	7
Chinese	223	187	127	77
Tamils	109	55	24	21
Malays and allied races ..	41	27	23	15
Other nationalities	22	21	11	3

Physical conditions of those admitted were:—

	Males	*Females*
Good	102	70
Fair	184	55
Impaired	70	45
Greatly impaired	50	21

CRIMINAL PATIENTS

	Males		*Females*	
	1935	*1934*	*1935*	*1934*
Remained on 31st December, 1934	43	45	4	3
Admitted during 1935	24	14	—	3

Number discharged from Hospital:—

	Males		*Females*	
	1935	*1934*	*1935*	*1934*
(*a*) To prison as not insane on admission	1	2	—	1
(*b*) As fit to make their defence ..	8	3	—	—
(*c*) Number whose sentence expired	4	5	—	1
(*d*) Number who died ..	5	6	1	—

There remained on 31st December, 1935, 49 males and 3 females criminal patients, as compared with 43 males and 4 females criminal patients at the end of 1934.

Mortality.—The death-rate was 9.98 per cent. of the total treated. There were 46 more deaths than in 1934. The chief cause of death in order of frequency were dysentery, pulmonary tuberculosis, general paralysis of the insane and pneumonia. An investigation into the incidence of dysentery was continued and carriers were searched for and treated.

Industries.—Eight thousand four hundred and fifty yards of cotton cloth were woven and 70,700 pounds of vegetables were grown for the use of patients. Some cocoanuts and a small quantity of fruit were harvested.

Revenue.—Twenty-eight thousand seven hundred and twenty-six dollars.

Staff.—Dr. B. F. HOME was appointed Medical Superintendent on 21st August, 1935. Dr. F. D. GILLESPIE, acting Assistant Medical Superintendent, was transferred to Labuan on 1st August, 1935, and Dr. H. MEHTA officiated as Assistant Medical Superintendent from 1st August, 1935, until the end of the year.

(B).—Leper Settlements

PULAU JEREJAK SETTLEMENT

Inmates.—

Total number remaining on 31-12-1934 ..	968
Admitted during the year 1935	250

Total number treated during 1935 was 1,218, as compared with 1,128 in 1934.

	1934	*1935*
Discharged—relieved 5 cured 30 }	35	5 51 } 56
Died	3	—
Transferred	91	111

Four inmates who were discharged as relieved, (2 Chinese and 2 Indians), were taken to China and India respectively by their relatives and 1 Indian was repatriated to India at Government expense. The 51 inmates who were discharged as "cured" were sent back to their homes in Malaya where most of them are periodically examined by a Government or Municipal Health Officer.

The total number remaining on 31st December, 1935, was 1,026, classified as follows:—

Residential.—

Straits Settlements	787
Federated Malay States	91
Unfederated Malay States	148
	1,026

Nationalities.—

Chinese	832
Indians	144
Malays	36
Eurasians	9
Others	5
	1,026

The daily average number of inmates was 997.34 as compared with 921.48 for the previous year.

Percentage of deaths to total treated as compared with those for the previous 10 years:—

Year	*Inmates*	*Deaths*	*Rate percentages*
1925	831	117	14.00
1926	850	117	16.16
1927	871	122	14.00
1928	879	102	11.37
1929	990	105	10.60
1930	1,058	125	11.81
1931	1,040	88	8.46
1932	873	80	9.16
1933	1,064	84	7.89
1934	1,128	91	8.07
1935	1,218	111	9.11

The chief causes of deaths during the year being:—

Septicæmia	28
Pulmonary tuberculosis	23
Chronic nephritis	10
Senility	8
Lobar pneumonia	6
Dysentery	4

Administration.—The Chief Medical Officer and the Senior Health Officer were visiting Medical Officers throughout the year.

The resident staff consisted of:—

One Acting Senior Deputy Medical Officer.
One Assistant Medical Officer.
One Lay Superintendent.
Eight dressers.

The Acting Senior Deputy Medical Officer, Dr. K. V. VEERASINGHAM, was in charge of the Settlement until he was taken ill on 27th August, 1935. The Assistant Medical Officer, Dr. S. G. RAJAHRAM, took charge of the Settlement from that date.

Obituary.—I have to record with profound regret the untimely death of Dr. K. V. VEERASINGHAM on 14th November, 1935. Dr. VEERASINGHAM was very interested in the welfare of the inmates and had spent the last five years of his life in leprosy work in Pulau Jerejak.

Police.—The force consist of:—

One Sikh N.C.O. from the regular Police in Penang, in charge.
One Sikh Auxillary N.C.O.
Seven Sikh Auxillary Constables.

Buildings.—During the year alterations to provide better ventilation and lighting for ward 13 were completed. The new office and three blocks of kitchens in the Old Settlement were completed.

The housing of all boys under 18 years of age, to the number of 48, in the main block of the building in the Old Settlement proved to be very satisfactory. Here they are provided with facilities for in-door and out-door games, and recreations befitting their age.

The Settlement consists of four main camps:—

1.	Old Settlement	(authorised	accommodation)		380
2.	New Settlement	,,	,,	. .	300
3.	Camp *E*	,,	,,	. .	162
4.	Eurasian	,,	,,	. .	18

Camp F.—Levelling of the site and construction of the sea wall have been completed. Fourteen new houses are under construction, and the reservoir is nearing completion.

Water Supply.—

Old Settlement	reservoir	capacity . .	. .	350,000 gallons
New Settlement	,,	,,	(Green Bank)	750,000 ,,
Camp *E*	,,	,, . .	. .	750,000 ,,

There are also three deep wells in the New Settlement to supplement the inadequate supply from the Green Bank reservoir. There are, in addition, two small reservoirs, one in the Eurasian Camp and another behind the Lay Superintendent's quarters. Subsoil anti-mosquito drainage in the camps has provided ten small concrete wells, which are popular bathing and washing places. Owing to the continuance of the exceptionally dry weather during the months of April, June and August, 1935, 4,001 tons of water had to be imported from Penang.

Rainfall.—The total rainfall for the year was 2101.50 m.m. as compared with 2759.25 m.m. for the previous year. The maximum rainfall on any one day was 162.00 m.m. on 29th October, 1935.

Anti-malarial Work.—Permanent anti-mosquito works were extended in all the camps and practically the whole Island is under control. Consequently oiling has been reduced to a minimum. For the fifth year in succession there has been no case of malaria contracted within the Settlements.

Admissions.—In 1935 the admissions totalled up to 250 as against 234 of the previous year, and were classified according to the stage of the disease as below:—

	Early	*Moderately advanced*	*Advanced*	*Total*
Neural	12	12	16	40
Cutaneous	15	30	31	76
Mixed	16	20	98	134
	43	62	145	250

It is pleasing to record that a higher percentage of less advanced cases are being admitted now, as will be seen from the list given below:—

Year	*Early*	*Moderately advanced*	*Advanced*
1931	—	2	147
1932	—	3	192
1933	12	21	165
1934	36	50	148
1935	43	62	145

Treatment.—The number of cases undergoing treatment was increased. Active treatment was given to all suitable cases and wherever possible the intramuscular injections of ethyl esters were supplemented by intradermal injections of iodised ethyl esters.

Laboratory.—All routine examinations of specimens were examined in the Settlement laboratory. During the year 599 specimens were examined in addition to several dark ground specimens, and smears for mycobactrium lepræ from patients detained at the Quarantine Station.

Various activities of the inmates.—As in the previous years as much freedom as possible within the confines of the island was given to the inmates, who were encouragd to lead normal lives and employ themselves at any useful occupation for which they were suited. During the year several of them were engaged in useful and lucrative work.

Employment was given to a number of able-bodied men as menials, attendants, barbers, dhobies, woodcutters, etc., for which allowances varying from $4 to $10 per month were paid by the Government. A few educated lepers were employed as teachers, dressers, tindals and bandmaster. There was a marked increase in the number who took a lively interest as independent artisans in various ventures, such as carpentering, vegetable and fruit gardening, poultry farming and fishing. There are several shops in the Settlement which are financed and managed by the inmates themselves.

In addition to the two tracts of land which have been under cultivation during the past two years, another tract in Camp *E* has been set apart for the cultivation of fruits and vegetables and for poultry farming. The garden plots around the huts in Camp *E* were kept fully planted either with vegetables or flower plants.

The band, which now consists of 11 educated inmates, continued to be popular. In addition to the moonlight entertainments it was able to contribute the necessary music at the theatrical performances. Lessons in music were also given to a number of inmates who were apt and willing to learn.

Several performances were given by the 5 theatrical troupes—3 Chinese, 1 Malay, and 1 Tamil—during the year. Several of the actors were found to possess marvellous ability in this art and the inmates thoroughly enjoyed these performances.

Out-door games, such as football, volley ball, basket ball, water polo, badminton, swimming and fishing were indulged in by the inmates. The "Wheatley Club", with all the educated inmates as members, has been chiefly instrumental in promoting out-door games, sports and picnics, since its inception in 1932. The usual contributions of books, periodicals, illustrated journals, newspaper—in English, Chinese, Tamil and Malay—gramophone records etc., were received from members of the public, clubs and associations.

The two schools—English and Chinese—continued to maintain a good standard of education. In addition, the school children are taught a variety of handicrafts such as fretwork, artificial flower making, painting and pottery. Thirteen boys were enrolled in the English school and 20 boys in the Chinese school.

The strength of the "Pulau Jerejak Scout Troop" is forty. They carried out regular exercises and also provided a guard of honour during the visit of high Government officials and eminent visitors.

General.—The health of the inmates and staff has been good. The discipline among the inmates continued to be excellent and there has been no serious breach of the peace.

LEPER SETTLEMENT, SINGAPORE

The Leper Settlement, Singapore, serves as a collecting station: almost all the male inmates are transferred to Pulau Jerejak Settlement. The remaining lepers who have relations and friends here, are allowed to stay at the settlement permanently.

	Male	*Female*	*Total*
Number remaining on the 31st December, 1934	88	136	224
Admitted during 1935	189	49	238
Total treated 1935	277	185	462
Discharged during 1935	4	10	14
Absconded during 1935	9	15	24
Died during 1935	10	7	17
Transferred to Pulau Jerejak ..	85	—	85
Transferred to General Hospital ..	—	1	1
Transferred to Sungei Buloh ..	—	48	48
Transferred to Johore Settlements ..	2	—	2
Remaining on 31st December, 1935 ..	167	104	271

The treatment adopted at this settlement is on the same lines as that adopted for Pulau Jerejak Settlement, Penang.

VIII.—PRISON HOSPITALS INCLUDING CRIMINAL VAGRANT WARDS

—	1934			1935		
	Admissions	Deaths	Case Mortality per cent.	Admissions	Deaths	Case Mortality per cent.
Singapore Prison Hospital ..	1,254	18	1·5	933	9	·9
Penang Prison Hospital ..	255	2	·74	120	3	2·5
Malacca Prison Hospital ..	76	..	..	61	..	..
Total ..	1,585	20	1·26	1,114	12	1·07

IX.—KING EDWARD VII COLLEGE OF MEDICINE, SINGAPORE

The College maintained a full curriculum of medical and dental courses during the year. There was an entry of 26 medical and 15 dental students when the academic year commenced in June, 1935. There were 187 students in the College including 118 medical, 56 dental and 13 pharmacy students, as against 155 in 1934. Eight medical and 3 dental students completed the courses and obtained the diploma of the College. A number of the graduates spent the year or part of the year as assistant house physicians or assistant house surgeons in the Singapore hospitals. During the year 130 candidates sat for the various medical professional examinations of whom 73 passed 14 obtained exemptions and 53 failed. Sixty-seven candidates sat for the dental professional examinations of whom 31 passed, 18 obtained exemptions and 18 failed.

The first course for the training of pharmacists commenced in October, 1935 and was attended by 14 students of whom one resigned before the end of the year. This course extends over one academic year and may be attended by students who have completed three years pupillage in an approved pharmacy or hospital. In 1935 approved candidates who had been engaged in the practice of pharmacy for at least seven years were also eligible for admission. The Course in the College includes lectures and practical classes in Pharmacy (160 hours), Botany (60 hours), and Forensic Pharmacy (20 hours). A full description of the Course is given in the College of Medicine Annual Report for 1935.

The Second International Malaria Course, under the auspices of the League of Nations was held in the College of Medicine from the 24th April to the 31st May, 1935, and was attended by 14 graduates from eight different countries. The Course was divided into two parts: (*a*) a preliminary revision course intended for those with a limited experience of malaria extending over 4 days; and (*b*) the theoretical, laboratory and clinical course extending over a period of 5 weeks, during which 10 hours were devoted to clinical studies, 6 hours to pathology, 6 hours to therapeutics, 58 hours to entomology, 14 hours to protozoology, 14 hours to epidemiology, and 56 hours to lectures and practical demonstrations of malaria control. In addition, lectures were given on immunity in malaria, special problems in various countries, and the work of the Malaria Commission of the League of Nations. The following lecturers from other countries participated in the Courses on the invitation of the League of Nations:—Professor SH. MOSHKOVSKI (Moscow), Dr. PAUL F. RUSSELL (Rockefeller Foundation), and Professor N. H. SWELLENGREBEL (Amsterdam).

The Licence in Medicine and Surgery (Honoris Causa) was conferred upon Mr. C. J. SMITH, C.B.E., F.R.C.S.E., Professor J. R. KAY-MOUAT, M.SC., M.D., D.P.H. and Dr. F. R. SAYERS, M.D., D.P.H. in recognition of their valuable services to the College. The diplomas were presented by His Excellency Sir SHENTON THOMAS, K.C.M.G., O.B.E., at a Convocation held on the 29th March, 1935.

Research.—Various lectures and courses on nutrition were given by Professor J. L. ROSEDALE to teachers, health workers and estate dressers during the year. Professor J. L. ROSEDALE and the staff of the Department of Biochemistry continued their research on nutritional problems. Feeding experiments using different proteins were continued. Dietetic experiments with a number of foods were carried out and the great superiority of husked rice over white rice was clearly demonstrated. Professor ROSEDALE in his description of the rats used in this experiment states:—

> "The extra stamina and well-being thus gained cannot well be described in words, but the rats almost appear to be a different type of animal from their litter-mates receiving polished rice".

Professor ROSEDALE draws attention to the fact that rats fed on a diet in which the fat is low become nervous and easily frightened. An attempt was made to ascertain the lowest amount of protein that would suffice for a human being. It appeared that 50 grams of protein was the minimum quantity required daily by the individual who was the subject of the experiment. Sections were made from the different organs of rats fed upon different levels of vitamin *A*. The work on the chemistry of proteins was continued. Numerous routine chemical analyses, mostly to control the feeding experiments, were made and occupied the whole time of one worker. Human metabolism experiments have been in progress throughout the year. The calculation of dietaries known to be in used tend to show, in view of the results obtained in these experiments, that there is a possibility of people "starving on a full stomach". The rat colony has been maintained in a state of good health and now numbers nearly 3,000 animals. A fuller account of Professor ROSEDALE'S research is published in the Annual Report of the College of Medicine.

In the Department of Medicine under Professor R. B. HAWES, F.R.C.P., investigations into the pyrexial treatment of various nervous disorders was continued. Dr. E. C. VARDY conducted an investigation into the effect of atebrin musonat on severe cases of malaria.

In the Department of Bacteriology, Professor W. A. YOUNG carried out research on the following:—

(*a*) Studies in tissue culture technique and its utilisation as a method of cultivating bacteria, etc.

(*b*) The culture of *M. leprae.*

(*c*) The inter-relation between immunity to yaws and immunity to leprosy.

(*d*) Experimental yaws in man and monkey.

(*e*) Acid-fast bacteria, other than M. tuberculosis, cultivated from sputum of tuberculous and non-tuberculous patients.

(*f*) The complement-fixation reaction as a method of diagnosing spirillary infections.

(*g*) The quantitative relationship between Wassermann-positivity and Kahn-positivity.

In the Department of Biology, Professor B. A. R. GATER published "Notes on Microscopy and Entomology" and "Aids to the Identification of Anopheline Imagines in Malaya". A study of *A. sundaicus* was also undertaken and is still in progress.

In the Department of Physiology, Dr. K. C. GHOSH completed his examination of Malay children for colour blindness.

Staff.—Professor J. C. TULL acted as Principal until the return from leave of Dr. G. V. ALLEN on 1st August, 1935.

Professor J. R. KAY-MOUAT, Professor of Physiology, proceeded on leave prior to retirement on 18th September, 1935. Professor D. H. K. LEE was appointed as his successor but did not assume duty until January, 1936.

During Professor J. G. HARROWER'S absence on leave Dr. W. A. FELL, from the Anatomy Department of the University of Cambridge, acted as Professor of Anatomy.

Professor J. K. MONRO assume duty as Professor of Surgery on the 27th April, 1935.

PUBLICATIONS

1. Notes on Microscopy and Entomology by B. A. R. GATER, Professor of Biology, *Government Printing Office, Singapore.*
2. Aids to the Identification of Anopheline Imagines in Malaya by B. A. R. GATER, *Government Printing Office, Singapore.*
3. The Fat-soluble Vitamins in Tropical Food Oils by J. L. ROSEDALE and C. J. OLIVEIRO (1934) *Transactions IX F.E.A.T.M. I.* 327.
4. The Relationship of Vitamins *B* & *C* in regard to Beri-beri by J. L. ROSEDALE and LEONG PENG CHONG, (1934) *Trans. IX F.E.A.T.M. I.*, 337.
5. The Education of School Teachers in Nutrition by J. L. ROSEDALE, (1935) *Mal. Medl. Jl.* X. 1.
6. The Mineral Content of some Tropical Foods by J. P. MORRIS and J. L. ROSEDALE, (1935) *Mal. Med. Jl.* X. 1.

7. "Tenaga Tuboh" by J. L. ROSEDALE, (Singapore 1935, *Government Printing Office*).
8. Chemical Analyses of Malayan Foods by J. L. ROSEDALE, (Singapore 1935, *Government Printing Office*).
9. Notes on a Clinical Investigation of the Treatment of Malaria by Atebrin Musonat Infections, by E. C. VARDY, (1935) *Mal. Med. Jl.*, Vol. 10, p. 67.
10. Lipiodal as a Therapeutic Agent by J. G. HARROWER, *Lancet* 28th September, 1935.
11. Ainhun Disease and the Anæsthetic Type of Leprosy by J. G. HARROWER, *Trans. Roy. Soc. Trop. Med. & Hyg.*, Vol. XXIX.
12. Malayan Gambier by T. ROEBUCK, *(in the press)*.

R. D. FITZGERALD,
Director of Medical Services,
Straits Settlements.

TABLE *I*

STAFF

The authorised number of the European staff of the Medical Department of the Straits Settlements in 1935 was 164.

STRAITS SETTLEMENTS

GENERAL BRANCH

Director of Medical Services, Straits Settlements.
Deputy Director of Medical Services, Straits Settlements.
Secretary to Director.
Chief Medical Officer, Singapore.
Chief Medical Officer, Penang.
Chief Medical Officer, Malacca.
Nine Leave Supernumerary Medical and Health Officers.
Nine Leave Supernumerary Nursing Sisters.

HOSPITALS AND DISPENSARIES

Senior Surgeon, Singapore.
Ophthalmic Surgeon and Physician, Singapore, and Lecturer in Ophthalmology to the College of Medicine, Singapore.
Radiologist, Singapore.
Surgeon, Penang.
Six Medical Officers, Singapore.
Five Medical Officers, Penang.
Medical Officer, Malacca.
Anæsthetist, Singapore.
Dental Officer, Singapore.
Two Dispensing Chemists, Singapore.
Medical Officer, Labuan.
Secretary, General Hospital, Singapore.
Matron, Super-scale, General Hospital, Singapore.
Matron, Grade I, Singapore.
Matron, Grade I, Penang.
Three Matrons, Grade II, Singapore.
Two Matrons, Grade II, Penang.
Tutor Sister, Singapore.
Sister, Physical Therapy Department, Singapore.
Forty-one Sisters, Singapore.
Fourteen Sisters, Penang.
Six Sisters, Malacca.
Two European Attendants, Singapore.
Lay Superintendent, Leper Settlement, Pulau Jerejak.

HEALTH BRANCH

Chief Health Officer, Singapore.
Senior Health Officer, Penang.
Four Health Officers, Singapore.
Health Officer, Penang.
Health Officer, Malacca.
Chief Sanitary Inspector, Singapore.
Chief Sanitary Inspector, Penang.

Lay Superintendent, Quarantine Station, Singapore.
Matron, Rural Public Health, Singapore.
Public Health Sister, Singapore.
Two Public Health Sisters, Penang.
Public Health Sister, Malacca.

Pathological Branch

Government Pathologist, Straits Settlements, and Professor of Pathology.
Pathologist, Penang.
Bacteriologist, Singapore.

College of Medicine, Singapore

Principal.
Professor of Physiology.
Professor of Anatomy.
Professor of Medicine.
Professor of Surgery.
Professor of Clinical Surgery.
Professor of Midwifery.
Professor of Bacteriology.
Professor of Biology.
Professor of Bio-chemistry.
Professor of Dental Surgery.
Assistant to Professor of Medicine.
Dental Officer and Lecturer in Dental Mechanics.
Dental Mechanic.
Janitor.

Mental Hospital, Singapore

Medical Superintendent.
Assistant Medical Superintendent.
Matron, Grade I.
Sister.
Three European Attendants.

Social Hygiene Branch

Chief Medical Officer, Social Hygiene.

TABLE *II*

Financial Statement

(*a*) Revenue

Settlement	*Hospital Fees, etc.*	*Medical, General and Health*	*Total*
	$	$	$
Singapore	277,002	45,871	810,114
Penang	115,511	14,594	422,725
Malacca	24,543	3,378	141,693
Labuan	293	761	3,924
Total . .	417,349	64,604	1,378,456

(*b*) EXPENDITURE

Settlement	Items of Expenditure	Medical General	Hospitals and Dispensaries	Health Branch	Social Hygiene Branch	General Clerical Services	Total
		$	$	$	$	$	$
Singapore ..	Personal Emoluments	237,621	714,032	109,469	41,886	64,509	1,167,517
	Other Charges	54,995	608,569	49,345	22,557	..	735,466
	Special Expenditure	12,317	23,850	69,452	..	..	105,619
	Sub-Total ..	304,933	1,346,451	228,266	64,443	64,509	2,008,602
Penang ..	Personal Emoluments	29,596	352,918	102,118	7,165	24,635	516,432
	Other Charges	3,184	249,040	39,668	6,384	..	298,276
	Special Expenditure	..	20,500	69,731	..	..	90,231
	Sub-Total ..	32,780	622,458	211,517	13,549	24,635	904,939
Malacca ..	Personal Emoluments	20,976	145,634	45,863	6,957	8,630	228,060
	Other Charges	1,697	85,259	17,399	2,915	..	107,270
	Special Expenditure	..	11,991	30,964	394	..	43,349
	Sub-Total ..	22,673	242,884	94,226	10,266	8,630	378,679
Labuan ..	Personal Emoluments	7,755	4,296	3,240	..	..	15,291
	Other Charges	..	2,556	507	..	..	3,063
	Special Expenditure	..	..	4,998	..	..	4,998
	Sub-Total ..	7,755	6,852	8,745	..	..	23,352
Total ..	Personal Emoluments	295,948	1,216,880	260,690	56,008	97,774	1,927,300
	Other Charges	59,876	945,424	106,919	31,856	..	1,144,075
	Special Expenditure	12,317	56,341	175,145	394	..	244,197
	GRAND TOTAL ..	368,141	2,218,645	542,754	88,258	97,774	3,315,572

The following is a brief summary of the Revenue and Expenditure for Tan Tock Seng Hospital:—

	$ c.	$ c.
Balance brought forward from 1934	11,392 10	
Government contribution, 1935	142,607 90	
Rent, interests, etc. . .	9,183 11	
		163,183 11
Less		
Salaries and wages . .	27,825 33	
Drugs, equipment, special upkeep, etc.	131,384 89	
		159,210 22
Balance carried forward to 1936		3,972 89

The Hospital is staffed and administered by officers paid from Hospitals and Dispensaries, Personal Emoluments, Colonial Estimates.

Four thousand four hundred and fifty dollars expended on vitamin research by Professor of Biochemistry was met from the Colonial Development Fund.

Sums expended by the Public Works Department on upkeep of buildings, minor repairs, etc., are not included in the financial statement.

TABLE *III*

HOSPITALS INSTITUTIONS OF STRAITS SETTLEMENTS

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935

Diseases	*Remaining at end of 1934	Yearly Total		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
I.—*Infectious and Parasitic Diseases*						
1. Typhoid fever ..	17	458	135	475	42	
2. Paratyphoid fever ..	..	13	1	13	1	
3. Typhus :—						
(1) Typhus exanthematicus	..	..	..	..	..	
(2) Tropical typhus ..	1	37	1	38	2	
(3) Japanese river fever	..	..	..	..	..	
(4) Other rickettsia infections ..	..	..	..	..	..	
4. Relapsing fever ..	..	1	..	1	..	
5. Undulant fever ..	..	..	..	..	..	
6. Small-pox	..	30	2	30	..	
7. Measles	3	103	..	106	1	
8. Scarlet fever	..	..	..	..	..	
9. Whooping cough ..	..	13	..	13	..	
10. Diphtheria	..	62	25	62	1	
11. Influenza :—						
(1) with pneumonia ..	..	5	4	5	..	
(2) with other respiratory complications	2	39	2	41	2	
(3) without respiratory complications ..	10	1,403	10	1,413	13	
12. Cholera	..	1	1	1	..	
13. Dysentery :—						
(1) Amœbic ..	11	295	79	306	13	
(2) Bacillary ..	23	480	129	503	29	
(3) Mixed ..	..	4	3	4	..	
(4) Undefined or due to other causes ..	2	78	6	80	6	
14. Plague :—						
(1) Bubonic ..	..	..	..	..	..	
(2) Pneumonic ..	..	..	..	..	..	
(3) Septicæmic ..	..	..	..	..	..	
(4) Undefined ..	..	..	..	..	..	
15. Erysipelas	1	26	4	27	2	
16. Acute poliomyelitis :—						
(1) Acute poliomyelitis	..	1	..	1	..	
(2) Acute polioencephalitis ..	..	7	..	7	..	
17. Encephalitis lethargica ..	..	..	..	..	..	

The form shows in the main the arrangement of diseases in the *International Nomenclature, 1931 Edition.* To save space the unimportant diseases of any class can be grouped in their places as "Other Diseases" of the Class.

* *i.e.* the year previous to that for which the return is made.

† "Total cases treated" includes those remaining in Hospital at the end of the previous year.

‡ The figures in this column to be carried on to the next year's return.

TABLE *III*

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935—*continued*

Diseases	*Remaining at end of 1934	YEARLY TOTAL		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
I.—*Infectious and Parasitic Diseases.*—(contd.)						
18. Cerebro-spinal fever . .	1	8	. .	9	. .	
19. Glanders	. .	. .	. .	. .	. .	
20. Anthrax	. .	. .	. .	. .	. .	
21. Rabies	. .	. .	. .	. .	. .	
22. Tetanus :—						
(1) Tetanus of the newly born . .	2	107	101	109	1	
(2) Other forms of tetanus	3	21	5	24	1	
23. Tuberculosis of the respiratory system	304	2,447	868	2,751	330	
24. Tuberculosis of the central nervous system . .	1	96	86	97	4	
25. Tuberculosis of the intestines or peritoneum . .	4	28	11	32	2	
26. Tuberculosis of the vertebral column . .	16	47	12	63	15	
27. Tuberculosis of other bones and joints	17	59	7	76	24	
28. Tuberculosis of the skin or subcutaneous tissue (lupus)	. .	2	1	2	. .	
29. Tuberculosis of the lymphatic system . . (abdominal and bronchial glands excepted)	4	39	1	43	7	
30. Tuberculosis of the genito-urinary system . .	. .	8	1	8	2	
31. Tuberculosis of other organs :—						
(1) Adrenal . .	. .	. .	. .	. .	. .	
(2) Other sites . .	1	6	1	7	1	
32. Tuberculosis disseminated:-						
(1) Acute	. .	6	5	6	. .	
(2) Chronic . .	. .	4	2	4	2	
(3) Not distinguished as acute or chronic	. .	13	12	13	. .	
33. Leprosy	1,252	789	136	2,041	1,374	
34. Syphilis :—						
(1) Primary . .	25	254	. .	279	13	
(2) Secondary . .	92	1,199	17	1,291	55	
(3) Tertiary . .	36	284	93	320	38	
(4) Hereditary . .	1	161	90	162	5	
(5) Period not indicated	4	49	. .	53	16	
35. Other venereal diseases :—						
(1) Soft chancre . .	15	251	. .	266	20	
(2) Gonorrhœa and its complications . .	38	748	4	786	37	
(3) Gonorrhœal ophthalmia . .	1	43	1	44	4	

TABLE *III*

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935—*continued*

Diseases	*Remaining at end of 1934	Yearly Total		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
I.—*Infectious and Parasitic Diseases.*—(contd.)						
(4) Gonorrhœal arthritis	5	181	. .	186	16	
(5) Granuloma venereum	1	. .	. .	1	. .	
(6) Tropical bubo . .	7	99	. .	106	7	
36. Purulent infective septicæmia—						
(1) Septicæmia . .	1	52	47	53	1	
(2) Pyæmia . .	4	30	13	34	2	
(3) Gas gangrene . .	. .	. .	. .	. .	. .	
37. Yellow fever						
38. Malaria :—						
(1) Tertian (benign) . .	33	3,387	21	3,420	47	
(2) Quartan . .	2	191	6	193	3	
(3) Aestivo-autumnal (Subtertian) . .	84	6,681	386	6,765	118	
(4) Mixed infections . .	5	340	16	345	3	
(5) Unclassified . .	34	2,397	27	2,431	49	
(6) Cachexia . .	15	433	38	448	29	
(7) Blackwater fever . .	. .	3	1	3	. .	
39. Other diseases due to protozoa :—						
(1) Yaws (frambœsia)	1	18	. .	19	2	
(2) Spirochætosis icterohæmorrhagica . .	. .	1	. .	1	. .	
(3) Leishmaniasis (dermal)	. .	1	. .	1	1	
(4) Kala azar . .	. .	. .	. .	. .	. .	
(5) Other diseases . .	. .	. .	. .	. .	. .	
40. Ankylostomiasis . .	44	1,803	37	1,847	57	
41. Hydatid cysts . .	1	. .	. .	1	. .	
42. Other diseases due to helminths :—						
Cestodes						
(1) Tænia solium . .	. .	2	. .	2	. .	
(2) Tænia saginata . .	. .	11	. .	11	. .	
(3) Other cestodes . .	. .	. .	. .	. .	. .	
Nematodes						
(4) Filaria . .	. .	16	. .	16	. .	
(5) Ascaris . .	17	719	5	736	25	
(6) Trichuris trichura . .	. .	. .	. .	. .	. .	
(7) Oxyuris vermicularis . .	4	288	. .	292	6	
(8) Dracunculus medinensis . .	. .	4	. .	4	. .	
Trematodes						
(9) Schistosomum japonicum . .	. .	. .	. .	. .	. .	
(10) Clonorchis sinensis	. .	. .	. .	. .	. .	
(11) Other helminths . .	. .	2	. .	2	. .	

TABLE *III*

Return of Diseases and Deaths for the Year 1935—*continued*

Diseases	*Remaining at end of 1934	Yearly Total		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
I.—*Infectious and Parasitic Diseases.*—(contd.)						
43.—(1) Sprue	1	15	..	16	..	
(2) Actinomycosis ..	..	1	..	1	..	
(3) Other mycotic infections excluding purely dermal mycosis ..	..	3	..	3	..	
44. Other infectious or parasitic diseases :—						
(1) Vaccinia including post vaccinal encephalitis ..	..	6	..	6	..	
(2) Other sequelæ of vaccination ..	..	13	..	13	..	
(3) Rubella ..	..	4	..	4	..	
(4) Varicella (chickenpox) ..	6	168	..	174	6	
(5) Mumps and its complications ..	..	33	..	33	..	
(6) Dengue ..	..	161	..	161	5	
(7) Melioidosis ..	..	..	..	..	..	
(8) Myiasis ..	..	2	..	2	..	
(9) Glandular fever ..	..	1	1	1	..	
(10) Others ..	..	2	1	2	..	
II.—*Cancer and other Tumours*						
45. Cancer or other malignant diseases of the buccal cavity, and pharynx ..	..	25	3	25	2	
46. Cancer or other malignant tumours of the digestive organs, and peritoneum:—						
(1) Stomach ..	5	65	44	70	4	
(2) Liver (primary) ..	4	70	40	74	1	
(3) Other digestive organs ..	3	48	31	51	2	
47. Cancer or other malignant tumours of the respiratory organs	4	36	17	40	3	
48. Cancer or other malignant tumours of the uterus ..	1	58	8	59	2	
49. Cancer or other malignant tumours of other female genital organs ..	1	24	2	25	1	
50. Cancer or other malignant tumours of the breast ..	3	16	3	19	1	

TABLE *III*

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935—*continued*

Diseases	*Remaining at end of 1934	YEARLY TOTAL		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
II.—*Cancer and other Tumours.*—(contd.)						
51. Cancer or other malignant tumours of the male genito-urinary organs ..	1	22	4	23	1	
52. Cancer or other malignant tumours of the skin ..	6	83	11	89	7	
53. Cancer or other malignant tumour of organs not specified	3	88	24	91	6	
54. Tumours non-malignant:—						
(1) Of female genital organs ..	3	41	2	44	2	
(2) Of other sites ..	8	145	5	153	5	
55. Tumours of undetermined nature :—						
(1) Female genital organs	..	2	..	2	2	
(2) Other sites ..	..	48	7	48	1	
III—*Rheumatism, Diseases of Nutrition and of Endocrine Glands and other General Diseases*						
56. Rheumatic Fever :—						
(1) With cardiac involvment	..	10	3	10	1	
(2) Without cardiac involvment ..	2	35	..	37	2	
57. Chronic rheumatism and osteo-arthritis ..	6	131	..	137	14	
58. Gout	..	4	..	4	..	
59. Diabetes (not including diabetes insipidus) ..	9	186	22	195	14	
60. Scurvy (including Barlow's disease)	..	3	2	3	..	
61.—(1) Beri-beri including epidemic dropsy ..	172	1,059	256	1,231	105	
(2) Beri-beri associated with pregnancy or labour ..	8	115	27	123	9	
62. Pellagra	1	12	1	13	2	
63. Rickets	..	1	..	1	..	
64. Osteomalacia	..	..	..	..	..	
65. Diseases of the pituitary gland	..	..	..	..	..	

TABLE *III*

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935—*continued*

Diseases	*Remaining at end of 1934	YEARLY TOTAL		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
III.—*Rheumatism, Diseases of Nutrition and of Endocrine Glands and other General Diseases.*—(contd.)						
66 Diseases of the thyroid and parathyroid glands :—						
(1) Simple goitre	. .	5	. .	5	1	
(2) Exophthalmic goitre	2	23	3	25	. .	
(3) Myxœdema, cretinism	1	. .	. .	1	1	
(4) Tetany	. .	2	. .	2	. .	
(5) Other diseases of the thyroid glands	. .	5	. .	5	. .	
67. Diseases of the thymus	. .	1	. .	1	. .	
68. Diseases of the adrenal glands (excluding tuberculosis)	. .	2	. .	2	. .	
69. Other general diseases—						
(1) Acidosis	. .	2	. .	2	. .	
(2) Other diseases of metabolism	. .	2	. .	2	. .	
IV.—*Diseases of the Blood and Blood Forming Organs*						
70. Hæmorrhagic conditions:—						
(1) Purpura	. .	5	2	5	. .	
(2) Hæmophilia	. .	2	. .	2	2	
71. Anæmia and chlorosis :—						
(1) Pernicious anæmia	1	10	. .	11	. .	
(2) Splenic anæmia	. .	4	. .	4	. .	
(3) Chlorosis	. .	1	. .	1	. .	
(4) Secondary anæmia	16	229	35	245	17	
(5) Others	3	59	8	62	3	
72. Leukæmia :—						
(1) Leukæmia	. .	6	1	6	. .	
(2) Hodgkin's disease	. .	8	2	8	. .	
73. Diseases of the spleen :—						
(1) Banti's disease	. .	2	. .	2	. .	
(2) Others (not including diseases of the spleen due to malaria or leukæmia)	2	8	. .	10	. .	
74. Other diseases of the blood and blood forming organs	. .	2	. .	2	. .	

TABLE *III*

Return of Diseases and Deaths for the Year 1935—*continued*

Diseases	*Remaining at end of 1934	Yearly Total		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
V.—*Chronic Poisoning*						
75. Alcoholism (acute or chronic)	..	81	..	81	..	
76. Chronic poisoning by other organic substances :—						
(1) Opium ..	1	264	..	265	2	
(2) Morphia, cocaine ..	..	2	..	2	..	
(3) Others ..	..	6	1	6	..	
77. Chronic poisoning by mineral substances :—						
(1) Lead poisoning ..	..	13	..	13	1	
(2) Arsenical dermatitis	..	10	..	10	1	
(3) Others ..	..	3	..	3	1	
VI.—*Diseases of the Nervous System and Sense Organs*						
78. Encephalitis (not including encephalitis lethargica) :—						
(1) Cerebral abscess ..	..	4	3	4	..	
(2) Other forms of encephalitis ..	3	21	11	24	1	
79. Meningitis (not including tuberculous meningitis or cerebro-spinal meningitis)	1	38	28	39	1	
80. Tabes dorsalis (locomotor ataxia)	11	16	..	27	17	
81. Other diseases of the spinal cord	15	11	2	26	10	
82. Apoplexy and paralysis :—						
(1) Cerebral hæmorrhage	3	54	44	57	..	
(2) Cerebral embolism	1	3	1	4	1	
(3) Cerebral thrombosis	3	40	7	43	13	
(4) Hemiplegia, cause not determined ..	39	107	8	146	50	
(5) Other paralysis ..	22	51	3	73	24	
83. General paralysis of the insane	30	16	21	46	5	
84. Other forms of insanity :—						
(1) Dementia præcox ..	..	4	..	4	1	
(2) Others ..	3	488	13	491	7	
85. Epilepsy	13	113	2	126	10	
86. Infantile convulsions .. (age under 5 years)	..	62	31	62	..	
87. Other diseases of the nervous system :—						
(1) Chorea ..	..	1	..	1	..	
(2) Neuritis and neuralgia	43	506	2	549	70	

TABLE *III*

Return of Diseases and Deaths for the Year 1935—*continued*

Diseases	*Remaining at end of 1934	Yearly Total		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
VI.—*Diseases of the Nervous System and Sense Organs.*—(contd.)						
(3) Paralysis agitans . .	4	7	. .	11	3	
(4) Disseminated sclerosis	1	3	. .	4	2	
(5) Neurasthenia . .	2	59	. .	61	1	
(6) Hysteria . .	. .	17	. .	17	2	
(7) Others . .	5	105	5	110	6	
88. Diseases of the eye :—						
(1) Conjunctivitis . .	8	315	. .	323	17	
(2) Trachoma . .	7	174	. .	181	9	
(3) Corneal ulcer . .	19	152	. .	172	25	
(4) Other diseases of the eye	163	416	. .	579	190	
89. Diseases of the ear and or the mastoid sinus :—						
(1) Otitis externa . .	. .	109	. .	109	1	
(2) Otitis media . .	2	82	2	84	5	
(3) Mastoiditis . .	1	21	2	22	1	
(4) Others . .	4	35	. .	39	2	
VII.—*Diseases of the Circulatory System*						
90. Pericarditis	1	9	2	10	. .	
91. Acute endocarditis :—						
(1) Malignant . .	. .	7	5	7	. .	
(2) Others . .	1	16	11	17	. .	
92. Chronic endocarditis : valvular disease :—						
(1) Aortic valve disease	7	86	19	93	6	
(2) Mitral valve disease	6	113	19	119	7	
(3) Aortic and mitral . .	3	13	7	16	1	
(4) Others . .	. .	10	3	10	. .	
93. Diseases of the myocardium :—						
(1) Acute myocarditis	28	253	72	281	22	
(2) Chronic myocardial degeneration . .	4	92	30	96	9	
94. Diseases of the coronary arteries	. .	. .	. .	. .	. .	
(1) Angina pectoris . .	. .	4	. .	4	. .	
(2) Coronary thrombosis	. .	7	5	7	. .	
(3) Coronary sclerosis . .	. .	. .	. .	. .	. .	

TABLE *III*

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935—*continued*

Diseases	*Remaining at end of 1934	Yearly Total		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
VII.—*Diseases of the Circulatory System.*—(contd.)						
95. Other diseases of the heart :—						
(1) Auricular fibrillation	4	16	4	20	6	
(2) Heart block	..	1	..	1	..	
(3) Others	..	35	11	35	..	
96. Aneurysm :—						
(1) Aneurysm of aorta	4	27	19	31	1	
(2) Aneurysm of other arteries	3	10	2	13	..	
97. Arterio-sclerosis	14	138	53	152	17	
98. Gangrene	1	15	7	16	..	
99. Other diseases of the arteries	2	23	10	25	2	
100. Diseases of the veins :—						
(1) Varicose veins	..	29	..	29	..	
(2) Hæmorrhoids	8	393	1	401	21	
(3) Phlebitis	..	12	..	12	..	
(4) Thrombosis	1	1	1	2	..	
(5) Others	..	1	..	1	..	
101. Diseases of the lymphatic system :—						
(1) Lymphangitis	..	9	1	9	..	
(2) Lymphadenitis	6	105	..	111	6	
(3) Bubo (non-specified)	3	62	..	65	6	
102. Abnormalities of blood pressure :—						
(1) High blood pressure	3	39	4	42	2	
(2) Low blood pressure	..	..	..	..	..	
103. Other diseases of the circulatary system :—						
(1) Epistaxis	..	4	..	4	..	
(2) Others	..	1	..	1	..	
VIII.—*Diseases of the Respiratory System*						
104. Diseases of the nasal fossæ and its annexa :—						
(1) Diseases of the nose	3	120	..	123	2	
(2) Diseases of the accessory nasal sinuses	1	64	..	65	1	
105. Diseases of the larynx :—						
(1) Laryngismus stridulus	..	..	..	..	..	
(2) Laryngitis	..	37	..	37	2	
(3) Other diseases of the larynx	1	5	..	6	..	

TABLE *III*

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935—*continued*

Diseases	*Remaining at end of 1934	YEARLY TOTAL		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
VIII.—*Diseases of the Respiratory System.*—(contd.)						
106. Bronchitis :—						
(1) Acute	15	566	1	581	13	
(2) Chronic ..	30	408	18	438	16	
(3) Not defined as acute or chronic ..	14	366	2	380	5	
107. Broncho-pneumonia ..	16	775	527	791	15	
108. Lobar-pneumonia ..	29	879	402	908	25	
109. Pneumonia (not otherwise defined)	..	18	5	18	..	
110. Pleurisy	..	..	..	..	..	
(1) Empyema ..	6	45	20	51	6	
(2) Other pleurisy ..	8	159	8	167	7	
111. Congestion and hæmorrhagic infarction of lung, etc.—						
(1) Hypostatic congestion of lung ..	..	1	1	1	..	
(2) Massive collapse ..	..	..	..	..	..	
(3) Pulmonary embolism	..	4	3	4	..	
(4) Others ..	..	13	..	13	2	
112. Asthma	33	649	11	682	31	
113. Pulmonary emphysema ..	7	69	16	76	7	
114. Other diseases of the respiratory system :—						
(1) Chronic interstitial pneumonia (including occupational diseases of the lung)	..	2	..	2	..	
(2) Gangrene of the lung	..	1	1	1	..	
(3) Abscess of the lung	2	36	16	38	2	
(4) Bronchiectasis ..	1	20	3	21	3	
(5) Others ..	2	23	4	25	1	
IX.—*Diseases of the Digestive System*						
115. Diseases of the buccal cavity, pharynx etc. :—						
(1) Pyorrhœa ..	8	184	..	192	4	
(2) Dental caries ..	..	145	..	145	1	
(3) Stomatitis ..	1	50	1	51	..	
(4) Ludwig's angina ..	..	4	..	4	..	
(5) Diseases of the tonsils	13	601	3	614	11	
(6) Others ..	4	215	2	219	6	

TABLE *III*

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935—*continued*

Diseases	*Remaining at end of 1934	YEARLY TOTAL		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
IX.—*Diseases of the Digestive System.*—(contd.)						
116. Diseases of the œsophagus . .	5	54	4	59	4	
117. Ulcer of the stomach or duodenum	. .	. .	. .	. .	. .	
(1) Ulcer of the stomach . .	28	318	51	346	42	
(2) Ulcer of the duodenum	23	65	5	88	9	
118. Other diseases of the stomach :—						
(1) Gastritis . .	18	532	4	550	16	
(2) Others . .	6	282	. .	288	9	
119. Diarrhœa and enteritis . . (under 2 years)	13	471	271	484	5	
120. Diarrhœa and enteritis :— (2 years and over)						
(1) Colitis . .	15	615	37	630	37	
(2) Otherwise defined	13	603	43	616	26	
121. Appendicitis	10	318	24	328	7	
122. Hernia; intestinal obstruction :—						
(1) Hernia . .	15	213	2	228	15	
(2) Strangulated hernia	2	64	8	66	3	
(3) Intestinal obstruction . . . . (including intussusception)	1	50	17	51	3	
123. Other diseases of the intestines—						
(1) Constipation, intestinal stasis . .	6	192	. .	198	. .	
(2) Diverticulitis . .	. .	1	. .	1	. .	
(3) Others . .	22	321	6	343	9	
124. Cirrhosis of liver . . (non-syphilitic)	. .	. .	. .	. .	. .	
(1) Alcoholic . .	2	29	6	31	2	
(2) Not returned as alcoholic	13	213	60	226	22	
125. Other diseases of the liver:—						
(1) Acute yellow atrophy	. .	5	3	5	. .	
(2) Toxic hepatitis . .	. .	10	1	10	. .	
(3) Amœbic abscess and hepatitis . .	2	89	6	91	7	
(4) Others . .	6	67	9	73	4	
126. Biliary calculi :—						
(1) With cholecystitis	. .	11	2	11	1	
(2) Without mention of cholecystitis . .	. .	17	. .	17	1	

TABLE *III*

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935—*continued*

Diseases	*Remaining at end of 1934	YEARLY TOTAL		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
IX.—*Diseases of the Digestive System.*—(contd.)						
127. Other diseases of the gall bladder and ducts :—						
(1) Cholecystitis without record of calculi	2	80	15	82	3	
(2) Others ..	3	60	10	63	7	
128. Diseases of the pancreas .. (excluding diabetes mellitus)	..	3	2	3	..	
129. Peritonitis without stated cause	2	16	13	18	..	
X.—*Diseases of the Genito-Urinary System (non-veneral)*						
130. Acute nephritis ..	14	157	57	171	8	
131. Chronic nephritis ..	33	448	99	481	38	
132. Nephritis (undefined as acute or chronic)	1	120	14	121	12	
133. Other diseases of the kidney and annexa :—						
(1) Pyelitis ..	13	204	14	217	7	
(2) Others ..	2	84	18	86	3	
134. Calculi of the urinary passages :—						
(1) Calculi of the kidney and ureter ..	2	59	1	61	4	
(2) Calculi of the bladder	..	39	..	39	2	
(3) Calculi of unstated site	..	7	..	7	..	
135. Diseases of the bladder :—						
(1) Cystitis ..	6	125	6	131	4	
(2) Others ..	4	24	..	28	1	
136. Diseases of the urethra :—						
(1) Stricture ..	4	131	3	135	6	
(2) Others ..	6	70	1	76	4	
137. Diseases of the prostate ..	1	18	1	19	2	
138. Diseases of the male genital Organs :—						
(1) Epididymitis ..	..	42	..	42	..	
(2) Orchitis ..	2	64	..	66	1	
(3) Hydrocele ..	2	162	..	164	5	
(4) Others ..	1	56	1	57	3	
139. Diseases of the female genital organs :—						
(1) Diseases of the ovary	1	22	..	23	1	
(2) Diseases of the fallopian tube ..	2	72	1	74	3	
(3) Diseases of the parametrium ..	..	10	1	10	..	

TABLE *III*

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935—*continued*

Diseases	*Remaining at end of 1934	YEARLY TOTAL		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
X.—*Diseases of the Genito-Urinary System (non-veneral).* —(contd.)						
(4) Diseases of the uterus	7	271	1	278	5	
(5) Diseases of the breast ..	..	27	..	27	..	
(6) Other diseases of the female genital organs	2	65	2	67	3	
XI.—*Conditions arising in Pregnancy, Childbirth and the Puerperal State*						
140. Post abortive sepsis :—						
(1) Septic abortion ..	..	2	..	2	..	
141. Abortion not returned as septic :—						
(1) Hæmorrhage following abortion ..	2	32	1	34	1	
(2) Abortion without record of hæmorrhage	3	183	2	186	5	
142. Ectopic gestation ..	..	14	1	14	1	
143. Other accidents of pregnancy	4	374	3	378	7	
144. Puerperal hæmorrhage :—						
(1) Placenta prævia ..	..	40	9	40	..	
(2) Other puergeral hæmorrhage ..	..	87	12	87	..	
145. Puerperal sepsis :—						
(1) Puerperal septicæmia	..	25	16	25	1	
(2) Puerperal sepsis, not including septicæmia	2	239	6	241	6	
146. Puerperal albuminuria and convulsions :—						
(1) Ante-partum eclampsia ..	..	33	3	33	2	
(2) Intra-partum eclampsia ..	..	17	3	17	..	
(3) Post-partum eclampsia ..	..	6	..	6	1	
(4) Albuminuria of pregnancy ..	9	1,295	4	1,224	10	
(5) Pyelitis of pregnancy	..	48	1	48	1	
(6) Otherwise defined	..	2	..	2	..	

TABLE *III*

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935—*continued*

Diseases	*Remaining at end of 1934	Yearly Total		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
XI.—*Conditions arising in Pregnancy, Childbirth and the Puerperal State.*—(contd.)						
147. Other toxæmias of pregnancy—						
(1) Hyperemesis gravidarum . .	3	43	5	46	. .	
(2) Others . .	. .	18	4	18	. .	
148. Puerperal phlegmasia, embolism :—						
(1) Puerperal phlegmasia. . . .	. .	. .	. .	. .	. .	
(2) Puerperal embolism	. .	3	3	3	. .	
149. Conditions associated with Labour :—						
(1) Normal labour . .	98	6,669	* 1	6,767	131	*Puerperal Sepsis
(2) Abnormal labour	7	729	31	736	12	
(3) Labour complicated with intercurrent disease . .	10	446	32	456	12	
(4) Accidents of childbirth	. .	22	. .	22	. .	
150. Other or unspecified conditions of the puerperal state :—						
(1) Puerperal insanity	. .	13	. .	13	. .	
(2) Puerperal disease of the breast . .	. .	6	. .	6	. .	
(3) Others . .	. .	4	. .	4	. .	
XII.—*Diseases of the Skin and Cellular Tissues*						
151. Carbuncle, boil . .	8	237	27	245	9	
152. Cellulitis acute abscess :—						
(1) Cellulitis . .	31	502	34	533	23	
(2) Acute abscess . .	44	1,193	14	1,237	46	
(3) Otherwise defined	8	79	2	87	4	
153. Other diseases of the skin and its annexa :—						
(1) Ulcers . .	94	1,940	8	2,034	115	
(2) Dermal mycoses . .	2	34	. .	36	1	
(3) Herpes . .	2	55	. .	57	2	
(4) Scabies . .	57	475	. .	532	52	
(5) Others . .	51	983	5	1,034	41	

TABLE *III*

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935—*continued*

Diseases	*Remaining at end of 1934	YEARLY TOTAL		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
XIII.—*Diseases of the Bones and Organs of Locomotion*						
154. Acute infective osteomyelitis and periostitis :—	21	87	9	108	12	
155. Other diseases of the bones	2	72	..	74	10	
156. Diseases of the joints and other organs of locomotion :—						
(1) Diseases of the joints	15	241	3	256	22	
(2) Diseases of the other organs of locomotion	4	139	..	143	11	
157. Congenital malformations:—						
(1) Congenital hydrocephalus ..	..	10	7	10	..	
(2) Spina bifida and meningocele ..	..	7	1	7	..	
(3) Congenital malformation of the heart	1	17	8	18	1	
(4) Monstrosities ..	..	8	8	8	..	
(5) Congenital hypertrophic pyloric stenosis	..	3	..	3	..	
(6) Cleft palate, harelip	2	44	..	46	3	
(7) Imperforate anus..	..	16	5	16	1	
(8) Other congenital malformations ..	1	98	9	99	1	
XV.—*Diseases of early Infancy*						
158. Congenital debility ..	..	5	3	5	..	
159. Premature birth ..	1	150	116	151	2	
160. Injury at birth ..	..	1	..	1	..	
161. Other diseases peculiar to early infancy :—						
(1) Atelectasis ..	..	5	5	5	..	
(2) Icterus neonatorum	2	330	1	332	3	
(3) Affections of the umbilicus ..	..	18	6	18	..	
(4) Pemphigus neonatorum ..	..	3	2	3	..	
(5) Others ..	..	32	23	32	1	
XVI.—*Conditions Associated with Old Age*						
162. —(1) Senile demantia ..	3	24	13	27	9	
(2) Other forms of senile decay.. ..	36	152	61	188	52	

TABLE *III*

Return of Diseases and Deaths for the Year 1935—*continued*

Diseases	*Remaining at end of 1934	Yearly Total		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
XVII.—*Affections Produced by External Causes*						
163. Suicide, or attempted suicide, by poisoning .. (including corrosive poisoning)	3	74	27	77	2	
164. Suicide, or attempted suicide, by gas poisoning ..	..	..	..	..	..	
165. Suicide, or attempted suicide, by hanging or strangulation	..	5	2	5	..	
166. Suicide, or attempted suicide, by drowning ..	..	16	..	16	..	
167. Suicide, or attempted suicide, by firearms ..	..	..	..	..	..	
168. Suicide, or attempted suicide, by cutting or piercing instruments	..	23	4	23	1	
169. Suicide, or attempted suicide, by jumping from a height	..	1	..	1	..	
170. Suicide, or attempted suicide, by crushing ..	..	..	..	..	..	
171. Suicide, or attempted suicide, by other means ..	..	6	3	6	..	
172. Infanticide	..	..	..	..	..	
173. Assault or homicide, by firearms	..	5	1	5	..	
174. Assault or homicide, by cutting or piercing instruments	9	268	6	277	11	
175. Assault or homicide, by other means.. ..	17	911	5	928	14	
176. Attacks by venomous animals :—						
(1) Snake bite ..	..	7	..	7	..	
(2) Insect bite ..	1	28	..	29	..	
(3) Others ..	..	24	..	24	1	
177. Food poisoning ..	..	22	1	22	..	
178. Accidental absorption of irrespirable or poisonous gas ..	..	..	..	..	..	
179. Other acute accidental poisoning	1	67	5	68	1	
180. Injuries due to conflagration	..	..	..	..	..	
181. Accidental burns :— (Conflagration excepted)						
(1) Burns by fire ..	4	96	8	100	4	
(2) Scalds ..	10	202	6	212	5	
(3) Burns by corrosive substances ..	2	23	1	25	1	

TABLE *III*

Return of Diseases and Deaths for the Year 1935—*continued*

Diseases	*Remaining at end of 1934	Yearly Total		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
XVII.—*Affections Produced by External Causes.*—(contd.)						
(4) Dermatitis due to exposure to sun . .	. .	3	. .	3	. .	
(5) Dermatitis due to exposure to other forms of radiation	. .	21	. .	21	. .	
182. Accidental mechanical suffocation	. .	1	. .	1	. .	
183. Accidental immersion or drowning	. .	3	. .	3	. .	
184. Accidental injury by fire-arms	. .	11	. .	11	2	
185. Accidental injury by cutting or piercing instruments . .	16	558	3	574	15	
186. Accidental injury by fall, crushing, etc. :—						
(1) By fall . .	79	1,881	46	1,960	57	
(2) By machinery . .	5	103	1	108	6	
(3) By motor vehicles . .	32	745	53	777	24	
(4) By railway vehicles	. .	2	. .	2	. .	
(5) By other means . .	29	1,189	22	1,218	71	
187. Cataclysm :— (tidal waves, cyclones etc.)						
188. Injury by animals . . (except poisoning by venomous animals)	1	58	. .	59	. .	
189. Hunger or thirst . .	. .	3	1	3	. .	
190. Excessive cold . .	. .	. .	. .	. .	. .	
191. Excessive heat . .	. .	. .	. .	. .	. .	
192. Lightning	. .	1	. .	1	. .	
193. Electricity	. .	5	. .	5	. .	
194. Other unstated forms of violence						
(1) Inattention at birth	. .	. .	. .	. .	. .	
(2) Others . .	2	52	. .	54	. .	
195. Violence of an unstated nature . . . . (*i.e.* suicidal, homicidal, or accidental)	. .	6	2	6	1	
196. Wounds of war . .	. .	. .	. .	. .	. .	
197. Execution of civilians by belligerent armies . .	. .	. .	. .	. .	. .	
198. Execution	. .	. .	. .	. .	. .	

TABLE *III*

RETURN OF DISEASES AND DEATHS FOR THE YEAR 1935—*continued*

Diseases	*Remaining at end of 1934	Yearly Total		†Total cases treated	‡Remaining at end of 1935	Remarks
		Admissions	Deaths			
XVIII.—*Ill-defined Conditions*						
199. Sudden death (cause unknown)	..	7	1	7	..	
200. Cause of death unstated or ill-defined	53	1,132	17	1,185	52	*
201. Diseases not included in this classification which have caused no deaths ..	35	694	..	729	34	
202. Malingering	..	11	..	11	..	
203. Cases admitted to hospital for observation as to mental condition ..	11	219	..	230	10	
204. Cases admitted for observation .. .. (not mental)	3	147	..	150	..	
205. Persons accompanying patients	30	1,529	..	1,559	43	
	4,290	74,262	6,075	78,552	4,716	

* Includes 574 Cases of fever unspecified. reported from Penang